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For The Commodore

AMIGA®

Volume 7 No. 4 April 1992

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Reviews:

- Foundation
- Video Director
- ProVector
- ProWrite
- RayDance
- Art Department Professional 2.0
- Charts & Graphs
- ATonce-Plus

In This Issue:

- Create & Produce Your Own Video
- Construct a Database With Your Favorite Authoring System
- Customize Your Start-up Sequence
- ARexx and ADPro

PLUS!

- The Video Slot looks at tutorials for Imagine
- HOT TIPS for your Amiga games!



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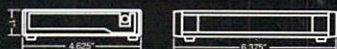
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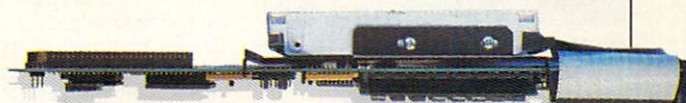
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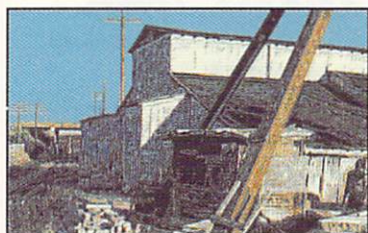
New York April 24-26

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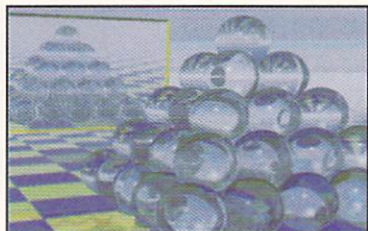


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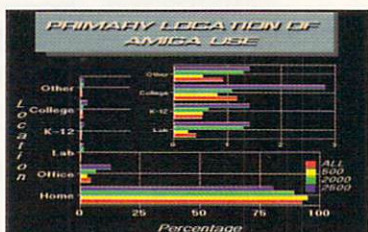
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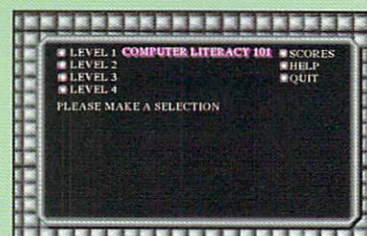
Grab your camcorder, boot up the Amiga, and launch your own directorial career!

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by Timothy Duarte

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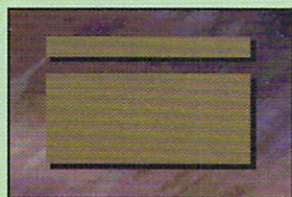
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by The Bandito

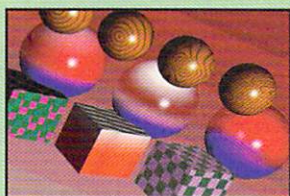
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from Digital Graphics Library



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ARexx and ADPro
Image aspect vs. pixel aspect



MidiPlay 1.0
by John Rappold



Bill Elliott's NASCAR Challenge
from Konami, Inc.

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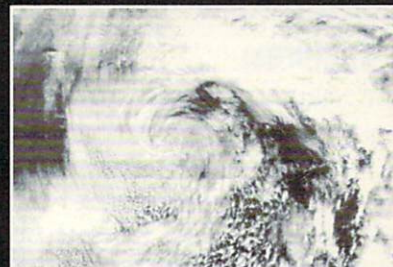
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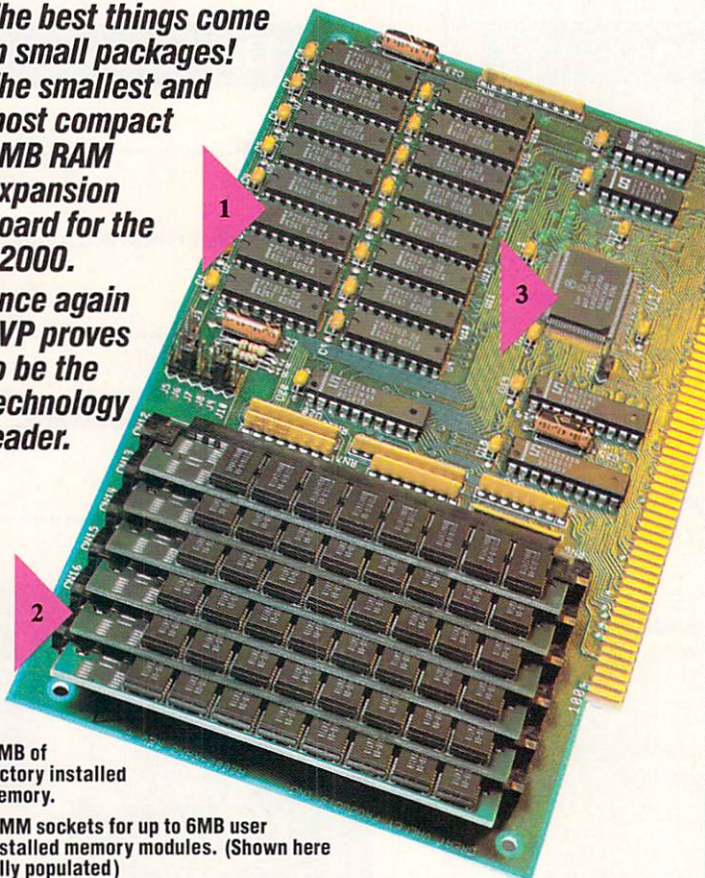


Students in Waldoboro, Maine, forecast the weather with the Amiga and satellite image receiving equipment.

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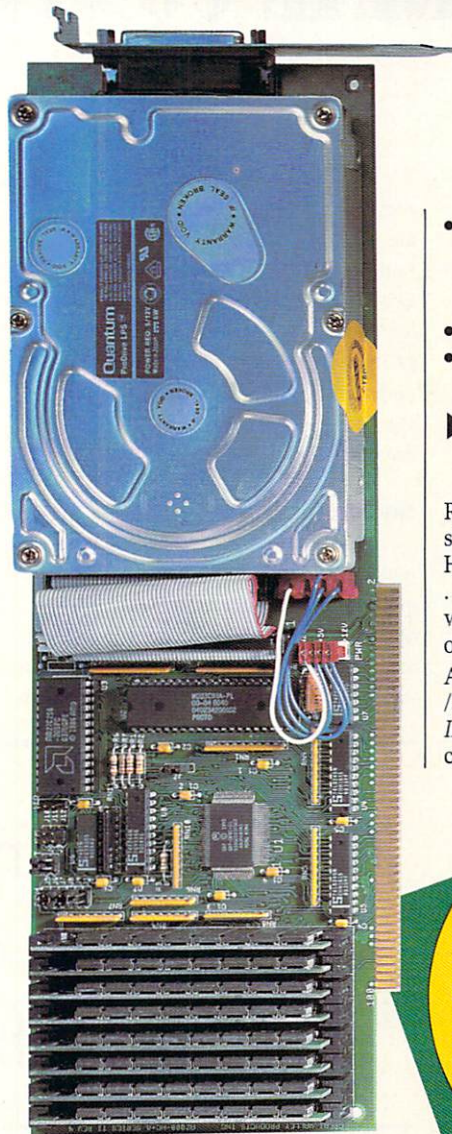
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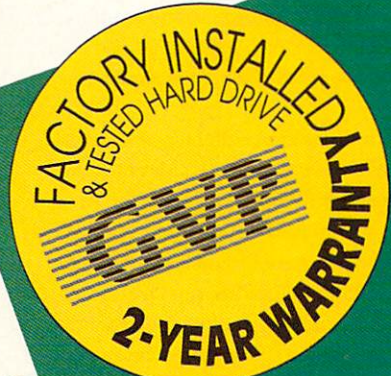
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EDITORIAL CONTENT

Responding With Readers

Describing the Amiga to other people has been a long time job of mine—both in print and in person. After over six years of providing *Amazing Computing* each month, I am still explaining the Amiga to fellow air travellers, friends, bank mortgage officers, and sales clerks. While it is not as lonely as it once was (the last sales clerk I spoke to owned an Amiga), it still is a job my fellow brethren in the Macintosh and MS-DOS communities do not need to perform.

It is not that the Amiga is not gaining acceptance. In video and in animation the Amiga outshines other platforms by a great margin. The only problem seems to be that these professional markets are not as keen in shouting the praises of the machine. It appears that they are worried their competition or, worse yet, their customers will discover what they are using to create large bodies of work in short time and at little cost. This is not to say that we have not had a few dazzling examples of what the Amiga can do.

Todd Rundgren enlightened the world and himself when he created his entire "Change Myself" music video on the Amiga. I say he enlightened himself because the next thing he did was create a video production facility with the Video Toaster creators at NewTek called Nutopia. Imagine what may have been created if before this, he had not been a die-hard Macintosh fan.

A Million Stories in The Amiga

There are a million stories in the Amiga, actually there are over three million. Every Amiga is in the hands of someone who has made a decision based on the best choices available to them and has decided to purchase an Amiga because it will provide them with the optimum means to achieve their goals. Each Amiga owner is the best salesperson for what the Amiga can do and what the Amiga is doing in actual applications.

While the professionals seem to want to remain tight lipped, creative Amiga users are very excited about what they are doing with their Amigas. These front line Amiga experts have delved into complex programs, learned CLI, and even have written programming code—all to make their Amiga perform a task they needed accomplished. Who are these masters of the Amiga? They are people like you.

Finding The Stories

This month's *And Furthermore* takes a look at some spectacular work done by eighth-graders at the D.R. Gaul Middle School in Waldoboro, Maine. The students and their teacher, John Hilker, are using an Amiga 2000 to track weather systems with

concern that his only sure way of sending us the material would be by mail and promised to send it the next day. Several days later, the material arrived and the result can be found on page 96.

And Furthermore was created for just this purpose. We wanted to demonstrate the Amiga in different formats and in different applications that may have missed the mainstream of computing interest but were exciting anyway. And Furthermore has not been a disappointment.

Several months ago, an alert Bridgewater State College student called our editorial offices with some important information which lead us to Mr. Rich Gopen and his students at the Burnell Laboratory School at Bridgewater, MA (AC

There are a million stories in the Amiga, actually there are over three million.

images received from satellites. The story would never have happened if Mr. Hilker had not included a one line addition to a letter he wrote concerning another matter and a printout of one of the student's pictures.

The idea of eighth grade students using information gathered by Russian weather satellites and producing information with their Amigas was astounding. We contacted Mr. Hilker and requested that he send us more pictures on disk as well as a brief description of what his students were doing. Being in Maine, Mr. Hilker expressed some

7.2). The elementary school students were producing two television shows as part of their art and video classes using an Amiga 2000 and Video Toaster and an Amiga 500.

Randy Lieu and Jim Silks of New York, NY told AC how they utilize their Amiga to help them create architectural views and perspective/anometric maps. The Amiga is the powerhouse behind this illustration/design team. (AC 6.11)

What about the avant garde photographic work of Judith Gelter, the Jacksonville, FL-based artist? (AC 7.1) Judith incorporated the Amiga into her photogra-

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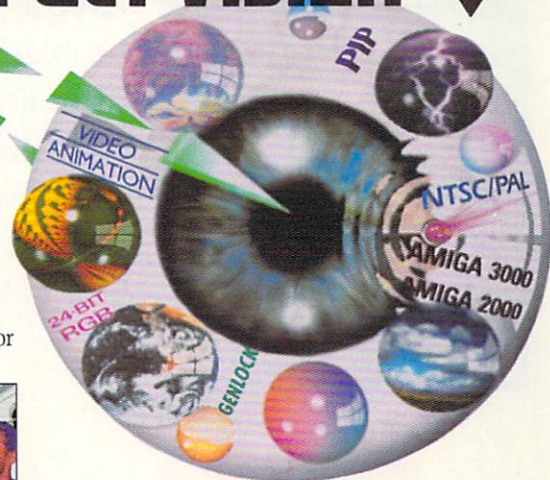


press a (configurable) "hot key" to activate any feature.

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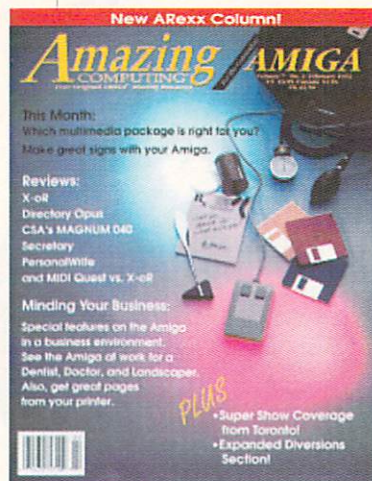
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our readers, the Amiga user. If you have a problem, with us or an advertiser, let us know and we will do our best to help.



Tell us!

Call 1-800-345-3360

phy processes; adding video and computers to produce computography.

Stories like these would not have been possible without the help of the members of the Amiga community. In the past, *Amazing Computing* has done numerous stories about people like you doing great things with their Amigas. However, it is important to realize that each of these stories began with a letter telling us what you are doing.

A Place To Speak

Amazing Computing was created originally as a forum for Amiga users to talk about what they were doing, question what was being done, and learn how to do things better. AC remains that forum and we are extremely interested in everything that the Amiga can be. We want to know what you are doing with your Amiga. All it takes is a simple note to our editorial offices.

What could this accomplish? What value could this add to the total Amiga knowledge? It could show us new avenues of Amiga possibilities.

The above articles are only a few of the stories that we have been able to bring to the attention of Amiga users and the general public. These are not blueprints or tutorials that explain each step to take to produce the same result being produced by thousands of other readers. These are visions of other Amiga owners creating honest applications with a computer which remains a complex tool with untapped potential. These stories demonstrate the Amiga is a tool which none of us can clearly predict where it will be used next.

Merits

We can't stress enough how important the exchange of information is in the Amiga community. Our Amigas are up against some tough competition and it is often difficult to prove that the Amiga is a superior computer platform for a great many applications. Amiga developers can produce all the products they like, but if we don't use them to the best of our ability and then share our creative talents with the rest of the community, what have we accomplished? Nothing.

If you are using your talents, being creative, and pushing yourself while stretching your Amiga to the limits of your imagination, we want to know. Show the rest of the Amiga community what can be done with this wonderful computer. Sharing your knowledge and talents will help to boost confidence in our machine. If people know what can be done with the Amiga, they will try to do it. Inspiration, imagination, and creativity will fuel the Amiga to even better applications.

So let us know what you're doing with your Amiga. We will help you share your experiences with the rest of the community. *Amazing Computing* is your voice. We exist to serve you, the reader. Take full advantage of this opportunity and tell the world about your favorite computer.

Who knows, maybe I will be able to talk to a fellow air traveller who owns an Amiga. I have no idea how long it will be before bank officers understand the Amiga.

Don Hicks
Managing Editor

THINK ALL '040 ACCELERATORS ARE THE SAME?

THINK AGAIN!

As a high power Amiga® 3000/3000T user you need a 68040 accelerator board for one reason ... and one reason only ... SPEED!

And once you know what makes one 68040 accelerator better than another, the only board you'll want is the G-FORCE 040 from GVP.

WATCH OUT FOR SLOW DRAM BOTTLENECKS

Yes, all 68040 CPU's are created equal but this doesn't mean that all accelerator boards allow your A3000 to make the most of the 68040 CPU's incredible performance.

The A3000 was designed to work with low-cost, 80ns DRAM (memory) technology. As a result, anytime the '040 CPU accesses the A3000 motherboard, memory lots of CPU wait-states are introduced and all the reasons you bought your accelerator literally come to a screeching halt!

Not true for the G-FORCE 040...

SOLUTION: THE G-FORCE 040's FAST, 40ns, ON BOARD DRAM

To eliminate this memory access bottleneck, we designed a special 1MB, 32-bit wide, non-multiplexed, SIMM module using 40ns DRAMs (yes, *forty nano-seconds!*). This revolutionary memory module allows the G-FORCE 040 to be populated with up to 8MB of state-of-the-art, high performance, on-board DRAM. Think of this as a giant 8MB cache which lets the '040 CPU race along at the top performance speeds you paid for.

SHOP SMART: COMPARE THESE G-FORCE 040 SPECS TO ANY OTHER '040 ACCELERATOR

► 68040 CPU running at 28Mhz providing 22 MIPS and 3.75 MFLOPS!

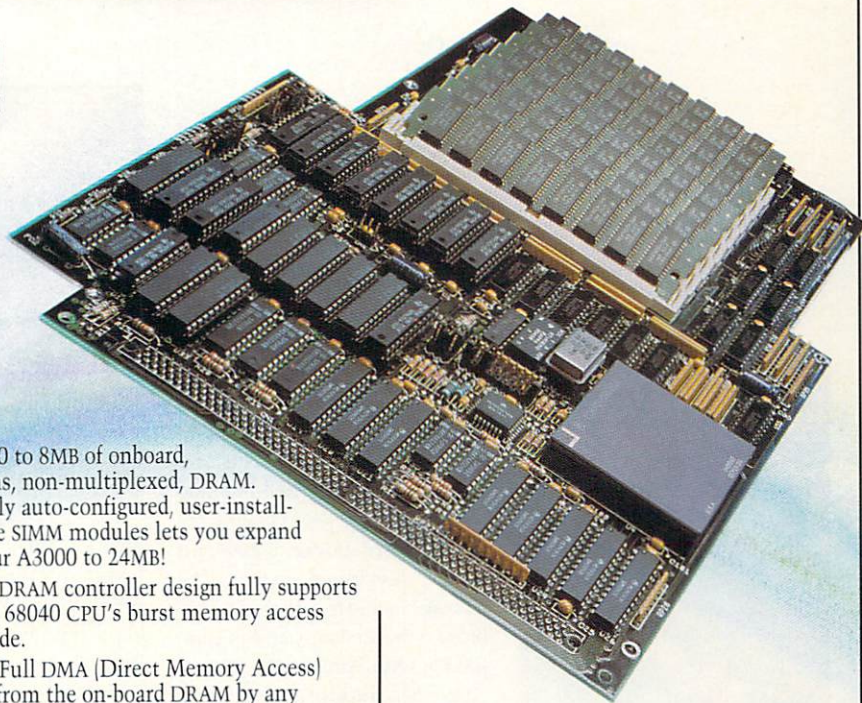
NOTE: The 68040 incorporates a CPU, MMU, FPU and separate 4KB data and instruction caches on a single chip.

- 0 to 8MB of onboard, 40ns, non-multiplexed, DRAM. Fully auto-configured, user-installable SIMM modules lets you expand your A3000 to 24MB!
- DRAM controller design fully supports the 68040 CPU's burst memory access mode.
- Full DMA (Direct Memory Access) to/from the on-board DRAM by any A3000 peripheral (e.g. the A3000's built-in hard disk controller).
- Asynchronous design allows the 68040 to run at clock speeds independent of the A3000 motherboard speed. Allows easy upgrade to 33Mhz 68040 (over 25.3 MIPS!) when available from Motorola.
- Hardware support for allowing V2.0 Kickstart ROM to be copied into and mirrored by the high performance on-board DRAM. Its like caching the entire operating system!
- Software switchable 68030 "fallback" mode for full backward compatibility with the A3000's native 68030 CPU.
- Incorporates GVP's proven quality, experience and leadership in Amiga accelerator products.

TRY A RAM DISK PERFORMANCE TEST AND SEE FOR YOURSELF HOW THE G-FORCE 040 OUTPERFORMS THE COMPETITION

Ask your dealer to run any "RAM disk" performance test and see the G-FORCE 040's amazing powers in action.

So now that you know the facts, order your G-FORCE 040 today. After all, the only reason why you need an '040 accelerator is **SPEED!**



G-FORCE 040™



Up to 8MB of high speed (40ns) DRAM

Motorola 68040 CPU running at 28 Mhz

A3000 "CPU slot" connector

GVP

GREAT VALLEY PRODUCTS INC.
600 Clark Avenue, King of Prussia, PA 19406

For more information or your nearest GVP dealer, call today. Dealer inquiries welcome.
Tel. (215) 337-8770 • FAX (215) 337-9922

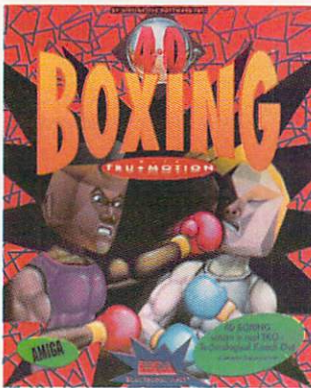


New Products

& Other Neat Stuff

edited by Timothy Duarte

• Software •



4-D Boxing

The next generation of sports games is available for the Amiga! 4-D Boxing, designed by Distinctive Software, features Tru-motion technology and captures all the combative action and competitive challenge of big-time boxing. State-of-the-art animation techniques and 3-D polygon graphics bring fluid, lifelike boxing movements. Every punch contains dozens of frames of realistic boxing moves. 4-D Boxing allows players to create fighters, customize their skills and physical characteristics, and train them at the gym. From the southpaw who comes out swinging to the fancy dancer who tires his opponents out, up to 10 personalized boxers can be created. In the 4-D control room, the viewpoint is adjustable. There are nine adjustable camera angles to give every possible view a fighter or ringside spectator could want. Study your footwork or watch that

devastating upper cut again with the video replay and slow motion features. *Suggested retail price: \$49.95, Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA 94404, (415) 571-7171, Inquiry #204*

Aztec C 5.2

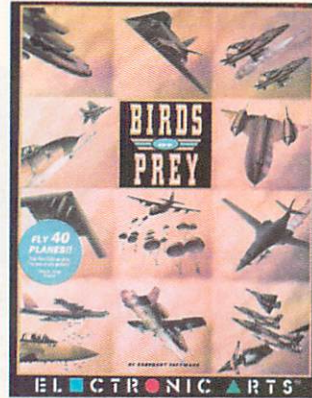
Manx Software Systems has updated their popular programming package. In the new version, the source level debugger is now part of the developer system. The package includes compiler and library enhancements and is compatible with AmigaDOS 2.0 and Apple Macintosh Aztec C Aztec 680x0 ROM. It's also fully ANSI-compatible. Registered owners can receive an update for \$20. *Suggested retail price: \$199, Developer System \$299, Manx Software Systems, P.O. Box 55, Shrewsbury, NJ 07702, (800) 211-0440 or (908) 542-2121, Inquiry #205*

Birds of Prey

In this new game, NATO and Soviet forces have engaged in an all-out war campaign. Armed with 40 front line aircraft, your mission is to devastate the enemy's land, sea, and air forces while protecting your own. Your enemy is unpredictable and constantly on the move, repairing and replenishing his forces and carefully planning his next attack. Experience every aspect of modern air combat and discover the pure power of 40 fighting aircraft.

Choose from NATO or Soviet forces, launch your attack from aircraft carriers and land airbases, view the action from allied or enemy aircraft at any time, and more.

Accurate flight dynamics and weaponry is featured in all 40 planes. This modern warfare simulation was developed by Argonaut Software. *Suggested retail price: unavailable, Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA 94404, (415) 571-7171, Inquiry #206*



Black Crypt

Long ago, four mighty guardians wielded their mystic weapons and banished the evil Dark Lord, Esteroth, from the known world. In the process, the guardians and their weapons were lost. Now, 100 years since the banishment of Esteroth, evil is spreading through the land once again. Hideous monsters from the past have returned. Esteroth must be back. You and your party of brave warriors—mages, clerics, fighters, and druids—go on a journey through a maze of 20 perilous, inter-connected dungeons. Search and find the mystical artifacts that hold the power of the Guardians and the last hope to save the land. Other features include an icon-driven interface, numerous puzzles which reveal the plot and advance gameplay when solved, 64-color graphics, chilling sound effects, auto-mapping, and more. *Suggested retail price: \$49.95, Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA 94404, (415) 571-7171, Inquiry #207*

Leisure Suit Larry 5

In the long-awaited sequel to Larry 3, Larry 5 is the fourth installment that just happens to take the place of Larry 4.

In this game's episode, Larry awakens to find himself the chief VCR rewinder for "America's Sexiest Home Videos," a mob-controlled television show. Larry embarks on a quest to find a hostess for the show.

In a separate plot, Patti, a cocktail lounge singer, goes undercover for the FBI to expose corruption in the entertainment industry. The game's animated dream sequences teleport players between two parallel, but non-interacting plots.

A new "help-you-along" function assists new gamers through the introductory rooms. A fast forward icon also scans over Larry 5's animated plot sequences.

An original soundtrack, featuring over 150 songs, was created and scored by Craig Safan. *Suggested retail price: \$59.95, Sierra On-Line, P.O. Box 485, Coarsegold, CA 93614, (800) 326-6654, Inquiry #208*

Lissa

Lissa, a Lissajous curve generator, generates Lissajous path objects for *Imagine* and *TurboSilver*.

This class of objects can be used as flight paths for other objects, as the backbone of extruded objects, and any other way the virtual sculptor desires. The paths are controlled by sinusoid motions over a sphere through a simple interface window on the Amiga's Workbench screen.

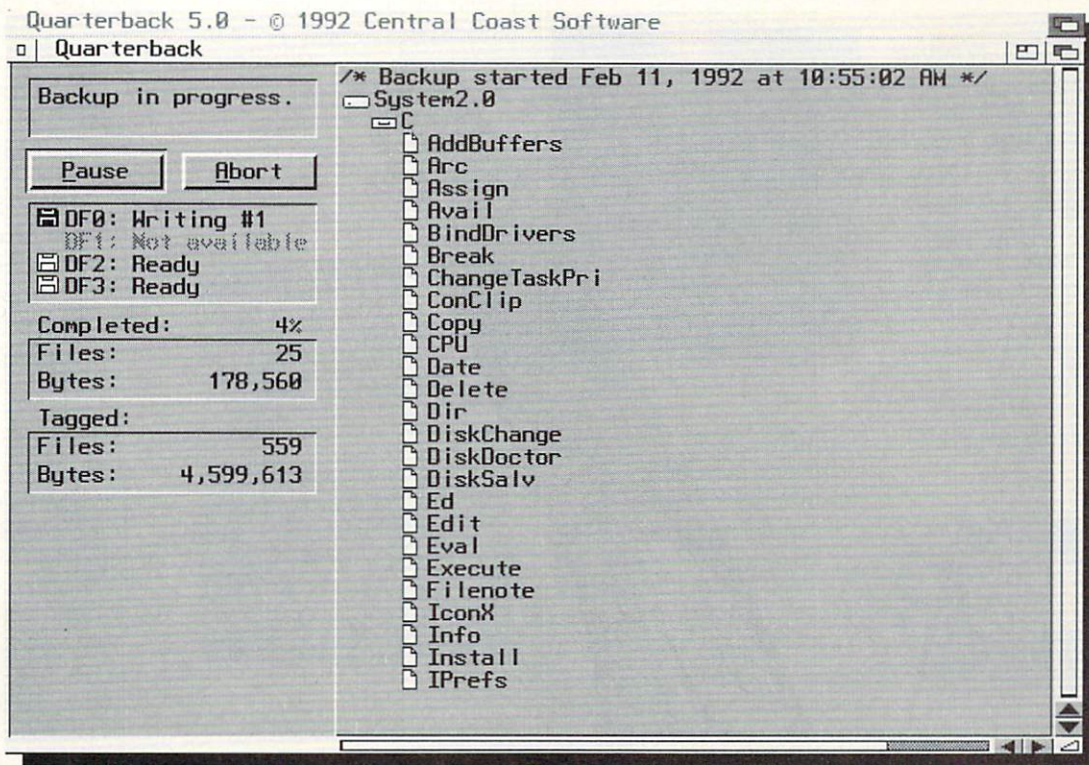
Lissa can also be controlled by AReXX. Anyone interested in 3-D modeling and sculpting in *Imagine* or *TurboSilver* can expand their 3-D object repertory with Lissa. *Suggested retail price: \$35, Technical Tools, 2 S. 461 Cherie Dr., Warrenville, IL 60555, (708) 393-6350, Inquiry #209*

Mark's MathLab

This new computational software tool from EasyScript! Software can be used for a variety of applications, including an electronic chalkboard for classroom usage. Demonstrate functional behavior in two or three dimensions, engineering design and analysis, or just pure experimental fun for the high school or college level math student.

Quarterback 5.0

The Next Generation In Backup Software



- *The fastest backup and archiving program on the Amiga!*
- Supports up to four floppy drives for backup and restore
- New integrated streaming tape support
- New "compression" option for backups
- Optional password protection, with encryption, for data security
- Full tape control for retention, erase and rewinding
- New "interrogator," retrieves device information from SCSI devices
- Capable of complete, subdirectory-only, or selected-files backup and restore
- Improved wild card and pattern matching, for fast and easy selective archiving
- Restores all date and time stamps, file notes, and protection bits on files and directories
- Supports both hard and soft links
- Full macro and AREXX support
- Full Workbench 2.0 compatibility
- Improved user interface, with Workbench 2.0 style "3-D" appearance
- Many more features!

Thousands of people rely on Quarterback for their backup and archival needs. Now, with Quarterback 5.0, there is even more reason to do so. Greater speed, even more features, and proven reliability. And a new "3-D" user interface puts these powerful capabilities at your finger tips. With features like these, it is no wonder that Quarterback is the best selling backup program for the Amiga. Would you trust your data with anything less?



Central Coast Software

A Division Of New Horizons Software, Inc.

206 Wild Basin Road, Suite 109,
Austin, Texas 78746

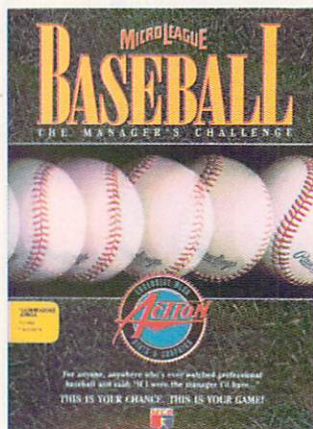
(512) 328-6650 • FAX (512) 328-1925

Quarterback is a trademark of New Horizons Software, Inc.

New Products

& Other Neat Stuff

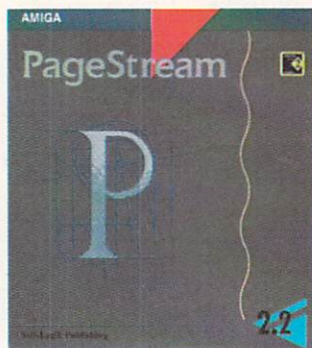
Mark's MathLab features include a parser which recognizes 34 built-in mathematical functions, requesters filled with default values for the math novice, up to 30 constants per expression, function plotting, function tables, three types of map graphing modes, on-line help, and more. Anyone who enjoys mathematics will enjoy Mark's MathLab. *Suggested retail price: \$49.95, EasyScript! Software, 10006 Covington Dr., Huntsville, AL 35803, (205) 881-6297, Inquiry #210*



Microleague Baseball: The Manager's Challenge

Win or lose based upon the managerial moves you make in Microleague Baseball. In addition to 3-D graphics and real-life players with new, expanded statistics and rosters, features include pop-up screens for mid-game access and substitutions, expanded offensive and defensive options, stealing and base running ratings, fatigue and power factors, fielding average, throwing range, and arm strength. An exclusive quick-play option will play a game in one minute, and an expert mode allows the plays to be called in numerical code.

Specialty disks, such as the General Manager/Owner disk, are available so players may create their own "dream team." *Suggested retail price: \$49.95, Microleague Sports Association, 2201 Drummond Plaza, Newark, DE 19711-5711, (302) 368-9990, Inquiry #211*



PageStream 2.2

Soft-Logik Publishing Corporation released PageStream 2.2 for the Amiga. It sports many improved features and new features. PageStream 2.2 has enhanced its import module and printer driver support to provide users with a wider selection of printers to choose from. Support for plotters has been added, allowing sign cutters to output PageStream documents. HPGL is the only plotter supported, but Soft-Logik plans to develop others.

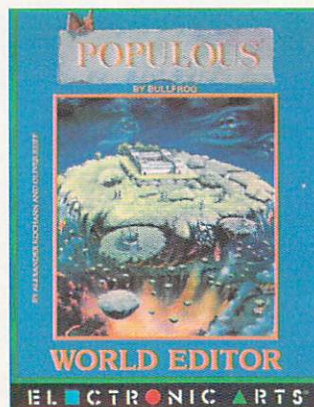
Hotlinks, an independent interface programs sold separately by Soft-Logik, is supported. Hotlinks focuses on exchanging actual data between PageStream and other programs. Registered owners of 2.1 and 2.0 will receive a free upgrade and registered owners of prior versions can receive v. 2.2 for \$100. *Suggested retail price: \$299.95, Soft-Logik Publishing Corporation, 11131 S. Towne Sq., Ste. F, St. Louis, MO 63123, (314) 894-8608 or (800) 829-8608, Inquiry #212*

Populous World Editor

In the beginning, there was *Populous*. Two nations striving for supremacy, and to claim victory for themselves. With the World Editor, you have the divine power to alter the people, places, and terrain of *Populous*. Let's face it—

any unimaginative immortal can conquer a world, but it takes a real god to create one.

Change the eras or themes and special game parameters that give your world's character. Control the death and birth rates of inhabitants, the intelligence of your people, and the amount of Manna provided by households. Two new worlds are also provided on disk. *Suggested retail price: unavailable, Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA 94404, (415) 571-7171, Inquiry #213*



Professional Conversion Pack

PCP is an expansion product for ASDG's Art Department Professional. AdPro users can now read and write image file formats commonly required in professional video and graphic settings.

This new release adds support for the X11 and SUN image file formats. These formats are used by high-end graphics and animation systems running on UNIX workstations. The new SUN support includes the ability to use an alpha channel to control compositing operations. Alpha channel support has also been added to the Targa and Rendition loaders already provided by the PCP. These new format capabilities will make it easier to integrate the Amiga into professional video and graphic environments. *Suggested retail price: \$90, ASDG, Inc., 925 Stewart St., Madison, WI 53713, (608) 273-6585, Inquiry #214*

Professional Page 3.0

This new version of the award-winning desktop publishing program incorporates more than 30 automatic functions, or "genies," facilitating fast and effortless creation of professional quality documents.

Function Genies automate many routine DTP operations. Functions include push-button envelope addressing, mail merge from an external database, automatic grid and table creation, and various text formats, such as drop caps, small caps, sub and super scripts. Other new features include an undo button, enhanced color separation and under color removal algorithms, auto-titling for output of larger pages, and text import files for most Amiga word processors.

Five new AGFA Compugraphic scalable outline typefaces are also supplied, for a total of seven typefaces. Adobe Type 1 fonts are also supported and all fonts can be scaled in increments of 0.125 points. Also, enhanced graphic handling is provided with a hot link to *Professional Draw 3.0*. *Professional Page 3.0* requires 2MB of RAM and a hard drive. *Suggested retail price: \$295, Gold Disk, 5155 Spectrum Way, Unit 5, Mississauga, Ontario, Canada, L4W 5A1, (416) 602-4000, Inquiry #215*

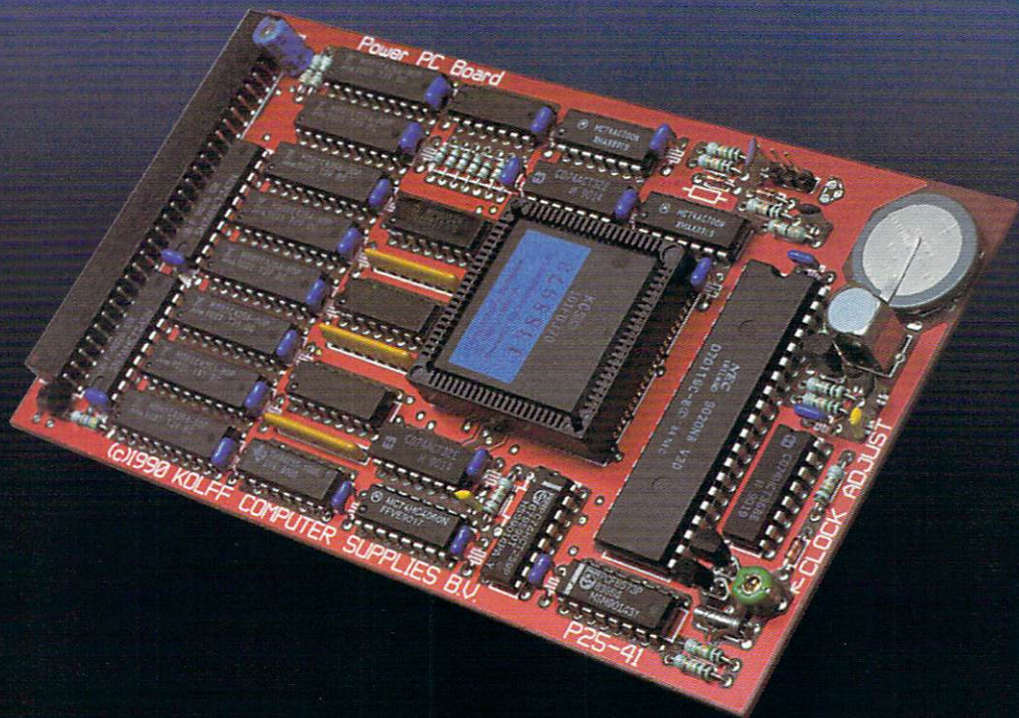
Rashumon 1.2

Rashumon, the multi-lingual word processor that supports English, Hebrew, Arabic, and Russian, is now available from HarmonySoft. Features include multiple fonts, proportional spacing, fast scrolling and editing, a graphic intuitive interface, and more. A desktop publishing version can combine graphics in your text and imports IFF files. *Suggested retail price: \$150, DTP version: \$200, HarmonySoft, 69 Jabotinsky St., Givatayim, Israel, 53319, (011) 972-331-5967, Inquiry #216*

Red Baron

Damon Slye, designer of the hit simulator *A-10 Tank Killer*, recreates the thrill and excitement and danger of aerial combat in *Red Baron*. *Red Baron* is detailed in

RUN MS-DOS SOFTWARE ON YOUR AMIGA



**POWER
PC BOARD**™

DEVELOPED BY KCS

IBM PC Emulator for the Amiga® 500, 2000, 3000

The Power PC Board turns your Amiga into an IBM® PC compatible, ready to run almost any program from the vast array of MS-DOS software*. Simply plug the board into your computer's expansion slot, quickly install the Power PC Board software, and you're ready to go! You'll never again say, "I wish I could run that program on my Amiga" — because now you CAN!

The Power PC Board's many features include: V.30 11 Mhz processor (improved 8088) • Compatible with most popular IBM PC software due to Phoenix Bios •

1MB RAM in MS-DOS mode

— 512K RAM

expansion +

512K RAM disk in Amiga mode • Battery backed-up clock/calendar, available in both Amiga & PC modes • Supports Hercules, CGA, EGA VGA & MGA video formats • Up to 16 colors in CGA, EGA & VGA modes • Supports most hard disks • Uses Fast RAM as Expanded Memory (EMS) • Parallel port, serial port & mouse emulation • For improved IBM emulation performance both the V.30 and the 68000 are active • Video performance exceeds most AT/286 computers • Models available for A 500, 500+, 2000, 3000 • Easy software installation • Rated best PC emulator by Amiga Magazin (Germany) • Workbench™ 2.0 compatible



Supra Corporation®

1-800-727-8772

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*MS-DOS software not included

All trademarks belong to their respective companies



New Products

& Other Neat Stuff



every aspect—from the Ace Expert System, which replicates combat intelligence characteristics of the actual Aces of the time, to the finely tuned detail for each airplane modeled after exact structural and flight characteristics of the originals.

Players fly for German or Allied forces, engage in close range dog-fights, blast enemy balloons, take on Zeppelins, and go head-to-head with more than 20 famous aces—including the Red Baron himself! Fly single missions or enlist for the full tour in campaign play with more than 40 back-to-back missions while the history of early air combat unfolds.

Other features include a realism menu, which allows complete control over game play complexity, difficulty, and realism, and a mission recorder, which gives would-be aces the ability to record an entire mission to disk, play the mission back, and then jump back into the action at any time to alter the missions outcome. *Suggested retail price: \$59.95, Dynamix, Inc., 99 W. 10th, Suite 224, Eugene, OR 97401, (503) 343-0772, Inquiry #217*

Scan Version 2

Future Scanning Systems has released version 2 of Scan, a combination of hardware and software which allows any Amiga computer to control Icom HF/VHF/UHF radio receivers that support Icom's CI-V port. Scan brings fully automated scanning, logging and receiver control, and provides a maximum scanning speed of over 2000 channels per minute. Powerful scan delays, monitor time limits and scan speed settings allow intelligent scanning.

Scan can also control a tape recorder which has remote control capability. With speech synthesis, the Amiga may say the frequency of a hit, the time, and the users comment. Any combination of these may be programmed for individual channels. Hi-res graphics display scan activity, scanning position, locked out channels, number of hits, frequency, mode, signal, tape recorder and speech status, and more.

Scan can multitask and generate ASCII frequency files. Parameters such as preferred screen color, baud rate, and more can be stored in a configuration file for loading during startup. A second version of Scan which can control two Icom radios simultaneously is also available. *Suggested retail price: \$149 single radio version, \$199 dual radio version, Future Scanning Systems, P.O. Box 654, Bartlesville, OK 74005, (918) 333-7474, Inquiry #218*

Screen Maker 2.2

Digital Graphics Library announced a re-release of the 100-image 24-bit IFF Screen Maker background package at a more affordable price.

Using compression format techniques, 25MB of data is now stored on only six disks. The original release of Screen Maker was on 36 disks.

When the user chooses an image to display, the file automatically decompresses in about a minute. The user can also choose NTSC or PAL broadcast formats, or any custom resolution from postage stamp size, to 2048 x 2048.

All of the images were created on mainframe broadcast computers

and were digitally transferred to meet Amiga's 24-bit IFF color specifications. *Suggested retail price: \$99.95, Digital Graphics Library, Inc., 1382 Third Ave., Suite #333, New York, NY 10021, Inquiry #219*

Vistapro 2.0

Taking virtual reality landscape simulation another step forward on the Amiga, Vistapro 2.0 allows the importation of more data into each picture frame, greatly increasing the possible resolution of the final rendering. Oak, pine, palm, cactus, and sagebrush can be added to any scene in varying mixes and densities. Large and small buildings can be added to any scenes along with roads and sunsets. The final effect of these functions produces a picture of unsurpassed realism and life.

For users of The Video Toaster, Colorburst, or Harlequin boards, Vistapro 2.0 outputs in 24-bit color. DCTV, Firecracker, HAM-E, and ARexx are also supported. A simple direct animation utility, which is also included, produces an animation from the camera to the target. Other features are wireframe preview, user-definable foregrounds and backgrounds, and more. Coupons for MakePath and Terraform, two other programs, are packaged with Vistapro 2.0. 3MB of RAM is required and an accelerator is recommended. *Suggested retail price: \$99.95, Virtual Reality Laboratories, Inc., 2341 Gaudard Ct., San Luis Obispo, CA 93401, (805) 545-8515, Inquiry #220*

• Hardware •

A3000 PAL/NTSC Switch

The A3000 PAL/NTSC Switch allows Amiga 3000 owners to choose between the North American video standard and the European video standard with the flick of a switch. The switch is very useful when using software that was developed in Europe, or vice versa. Easy-to-follow installation instructions are included and the switch installs in a few minutes. A lifetime warranty is included.

Suggested retail price: \$17.95, Luna Tech Inc., 3667 Lalani Way, Sarasota, FL 34232, (813) 378-5477, Inquiry #221

AMAS 2

AMAS 2 is a sound sampler and MIDI interface. This wedge-shaped cartridge plugs into the parallel and serial ports and allows you to analyze sounds. Record sounds from tape players or CD players and change the way they sound with the editor. Then, using AMAS 2's MIDI playback controls, replay the sample from a MIDI keyboard.

Cut and delete selected sample areas, mix samples with full or half volume, fade in and out with selectable degree of fade, filter your samples, and more. Other features include real-time record/play ghost markers and full editing and control facility for left/right channels. *Suggested retail price: £99.95, Microdeal, P.O. Box 68, St. Austell, Cornwall, England, PL25 4YB, (0726) 68020, Inquiry #222*

G-Force 030 Board

A 50MHz 68030 accelerator card with a built-in SCSI controller and 32-bit wide DRAM on a single card is now available from GVP. It comes standard with a 4MB of 60ns RAM and is user expandable to 16MB. Icon-based software which allows the user to switch back to the 68000 mode is included. An optional kit which will allow a hard drive to be mounted directly to the board will soon be available. The G-Force 030 combines excellent speed, memory, and storage capabilities on a single board. *Suggested retail price: \$1799, Great Valley Products, 600 Clark Ave., King of Prussia, PA 19406, (215) 337-8770, Inquiry #223*

GVP/PC286

This 286 PC emulator allows the Amiga 500 to run the MS-DOS operating system and MS-DOS applications concurrently with AmigaDOS applications. The GVP/PC286 plugs directly into the internal mini-slot expansion connector of the GVP Series II A500HD8+ hard drive/RAM add-on subsystem.

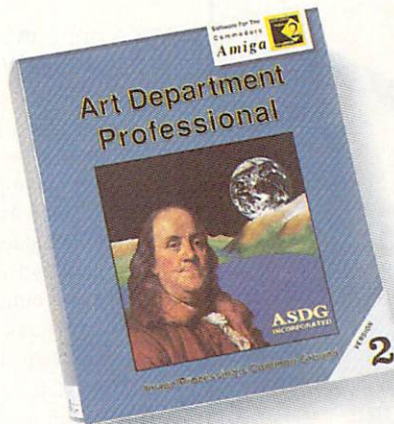
Teach Your Art Department To Read And Write



Think of the opportunities you'd miss if you couldn't read or write.

An imaging professional needs to be fluent in many languages. For instance, you have a picture in IFF which you need to combine with clip art stored in PCX. You need the result in GIF for use on PCs, but you also need it in PostScript to be sent to a service bureau.

Art Department Professional (ADPro) is your short cut to picture format literacy. Using it, you can read and write many important formats. **ADPro's** modular design allows additional formats (or even



925 Stewart Street
Madison, WI 53713
608/273-6585

the ability to control scanners, digitizers, printers and film recorders) to be added as your needs grow.

No matter which format you're coming from or going to, **ADPro's** advanced image processing capabilities help you get the best results. And, you can use **ADPro's** comprehensive ARexx interface to batch process hundreds of conversions as easily as one.

If pictures are your words, don't let a language barrier get in your way. Get **Art Department Professional!**

The following names are trademarked by the indicated companies: Art Department Professional: ASDG Incorporated. PostScript: Adobe Systems Corp. PCX: ZSoft Corporation. GIF: CompuServe Information Systems. ARexx: Wishful Thinking Development Corporation.

Circle 102 on Reader Service card.

New Products

& Other Neat Stuff

512K of fast memory (DRAM) is included for exclusive use by MS-DOS applications. Amiga memory can be allocated and transparently mapped into the 80286 CPU memory space for MS-DOS applications using more than 512K. Other emulations include Hercules, CGA, EGA/VGA (monochrome only), and Toshiba 3100. The parallel port, serial port, sound, real time clock, CMOS RAM, and even extended memory are supported. MS-DOS is not included. *Suggested retail price: unavailable, Great Valley Products, 600 Clark Ave., King of Prussia, PA 19406, (215) 337-8770, Inquiry #224*

MediaPhile 2.0SA Serial Controller

MediaPhile 2.0SA is the newest addition to the MediaPhile family of video deck controllers from Interactive Microsystems. When used together with MediaEditor, automated edit control from the Amiga is provided.

The unit provides complete control over Sony camcorders and video decks equipped with remote control ports. The controller has one remote control port input, an infrared control output, an output for Sony S-port, JVC swap port control, and one SMPTE time code input. It plugs into the Amiga's serial port and also works with Canon and Ricoh camcorders. *Suggested retail price: \$395, Interactive Microsystems, 9 Red Roof Lane, Salem, NH 03079, (603) 898-3545, Inquiry #225*

Mouse Control

Does your mouse get tangled up on your desk? Get that mouse cord

out of your way with Mouse Control, the latest invention/computer accessory from Advanced Image. The unit consists of a mounted, 8-inch spring holder for your mouse cord, keeping your workspace organized and tangle-free. The unit is essentially an inexpensive alternative to a cordless mouse. *Suggested retail price: \$9.95, Advanced Image, 2 Route 13 South, Brookline, NH 03033, (603) 673-0212, Inquiry #226*

• Other Neat Stuff •

Art Department Pro 2 Update

In response to customer needs, ASDG has updated ADPro with a bunch of new features. A new program called FRED, a visually-oriented frame editor, helps users organize their pictures into lists called sequences. A new roll operator makes creating video transitions much faster and a broadcast limit operator identifies and corrects colors which can cause playback artifacts based upon NTSC, PAL, or user-definable standards.

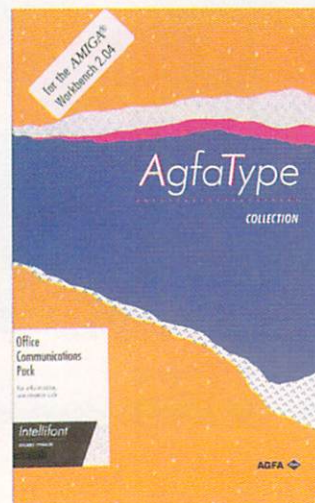
The PREFPRINTER has also been augmented with eight new dithering methods.

Also, a new IFF Form, SPLT, facilitates the transfer of large data files between the Amiga and other computer platforms.

ADPro 2.1.0 will be sent free to all registered ADPro2 owners. Owners of ADPro v. 1 can upgrade for \$75 and owners of *The Art Department* can upgrade for \$130. Contact: ASDG, Inc., 925 Stewart St., Madison, WI 53713

Migraph moves

Migraph, Inc., makers of the Migraph Hand Scanner, have moved to a new address. Contact: Migraph, Inc., 32700 Pacific Highway South, Suite 12, Federal Way, WA 98003, (206) 838-4677



AGFA announces Intellifont Integration

Agfa's Intellifont scaling technology and Intellifont Scalable Typefaces have been integrated in WorkBench 2.0, introducing scalable fonts to the Amiga platform. Intellifont is the font scaling system licensed by Hewlett-Packard for PCL5, its command language for the HP LaserJet III line of printers. With Intellifont in Workbench 2.0, Amiga users can now scale outline fonts on-the-fly, rather than rely on bitmaps that have been pre-generated and stored on a hard drive.

Agfa also has a library of over 250 additional typefaces. Intellifont Scalable Typefaces are sold in MS-DOS format and require a conversion utility. For more information, contact: Agfa Corporation, 90 Industrial Way, Wilmington, MA 01887, (508) 658-5600, ext. 2311

•AC•

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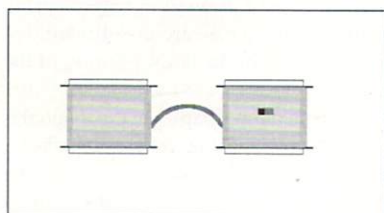
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- DiskConverter** - Convert MAC disks to AMAX format, AMAX disks to MAC format, copy MAC disks, or copy AMAX disks. Fast, reliable as easy to use!
- Disk Copier** - A special version of the Super-Card Ami II software was created to use SYBIL's superior copying abilities. Eliminates ALL drive speed conflicts! Now with Parameters for removing "code wheel" and "manual" protection schemes.

Super-Card Ami II

This hardware/software package allows you to make backups of your copy-protected software the same day you buy them! NO WAITING FOR PARAMETERS! The software is straight forward and easy to use. Amiga, IBM, Mac, and Atari ST disks can easily copied regardless of the copy-protection scheme! The user interface is a delight for novice users to operate, and has all of the features that advanced users demand.

Super-Card Ami II came about after two years of expensive research and development. Now, due to the overwhelming success of this product we are able to offer this amazing backup system at a lower price! Now you can own a HARDWARE copier for less than most software copiers!

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We now have PARAMETERS! Now you can remove documentation style (code wheels, manuals, etc.) and disk based copy-protection. As a bonus, you can install many programs on your hard drive! This truly is the last backup system you'll ever need!

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KickStart+ Board

Kickstart 2.0 is finally a reality! What is also a reality is that a lot of commercial software will not run under OS2.0! This is not the fault of Commodore, the problem lies with the programmer. In any event, you are stuck with software incompatibility. NOT ANYMORE! The KickStart+ Board allows you to have two different KickStart ROM's in your machine at the same time! Installation is easy! Just remove your existing ROM from your Amiga and place it on top of the KickStart Board. Now, plug the KickStart+ Board into where your ROM was originally. NEW electronic switching allows selection of the 2nd ROM by the mouse button(s), keyboard, or joystick (user selectable)! Works with ALL Amigas that have KickStart on ROM.

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VORTEX

The ATonce-Plus

IBM Emulator: Part 1

by Rich Mataka

In the July 1991 issue of *Amazing*, I wrote the original review of the ATonce IBM Emulator board for the Amiga 500 and 2000 family of computers. Now to arrive on the scene is Vortex's latest product the ATonce-Plus. For the July review, I used the Vortex software revision number 1.27. During the past seven months, Vortex has had only a minor upgrade which, as far as I can determine, took care of some hardware and software compatibility problems and added no new features. The latest version of the ATonce software was 1.28 and was posted on many of the major bulletin boards for users to download if necessary. Now it is clear why only a single software upgrade was made available during this time: Vortex was totally redesigning their ATonce hardware as well as rewriting their ATonce software. This new product is known as the ATonce-Plus and is already causing a major stir in the Amiga market.

So, what does the new Vortex ATonce-Plus do? It runs IBM business software and it plays some IBM games just as the original ATonce. However, it now does it faster than ever and multitasks with the Amiga software with no problems whatsoever. Additionally, its compatibility with IBM software has in-

creased dramatically as reported to me by Vortex since they have completely re-written their BIOS software. As with the original ATonce, you can still work on a *Lotus 1-2-3* spreadsheet in IBM mode while downloading a file from a BBS using *JR Comm* on the Amiga-tasking side. Originally, I had said that you were now a "superpower user" who employs a single Amiga 500 or 2000 to run simultaneously the excellent software that is available both for the Amiga and the IBM. However, now you can run both the Amiga and IBM software faster, too. I would say that classifies you as a "Mega SuperPower user."

ATonce-Plus Hardware Components and Features

When you unpack your ATonce-Plus, you will find the Vortex ATonce-Plus PC board, a 64-pin IC socket, two 3.5-inch floppy disks, a comprehensive user manual and the user registration card. The ATonce-Plus PC board measures 5.25 inches by 4 inches. This is considerably larger than the original ATonce. In this particular instance larger is better. If you were to compare the differences of the original ATonce, you would see some major improvements in the new hardware. In addition to the

hardware changes, is the new software that is provided. The ATonce-Plus is an entirely new, faster, better IBM-emulation board than was ever available.

ATonce-Plus Manual

The user manual is divided into three sections: Introduction, Installation, and the Emulator Operation.

An important point sometimes overlooked even by experienced computerists is the README file placed on the ATonce-Plus Amiga System disk. This file should be printed out and thoroughly read by anyone who will be using or installing the ATonce-Plus. It contains all the latest information regarding the installation of the hardware or software that was not included in the latest printing of the manual.

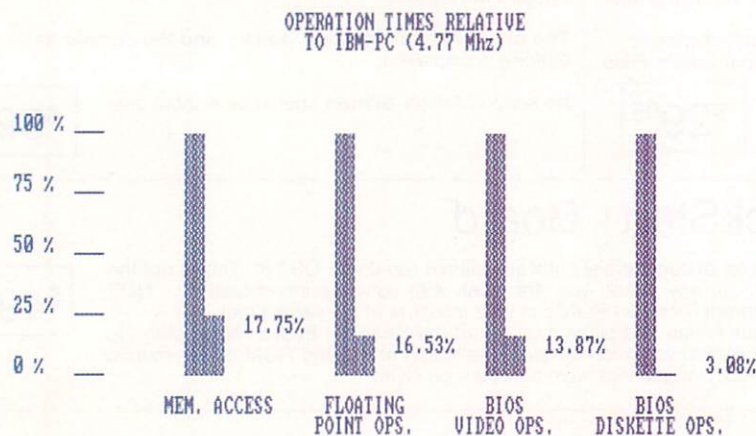
The Installation Chapter of the manual is well written, containing numerous photographs that should be followed during the installation process. This area of the manual advises you of the tools that you need to complete the ATonce-Plus installation.

The manual takes you step by step slowly through each phase of the installation process. Included are eight pictures and one drawing used for reference during the unit's installation. The ATonce-Plus board, just like the original ATonce board, is installed directly into the 68000 socket after removing the original 68000 microprocessor from the computer. However, it is at this point that all physical similarities between the two products end. The original ATonce had a 68000 microprocessor soldered to its board and could not be removed. The ATonce-Plus does not use this type of attachment, making it possible to take advantage of accelerator boards, such as the ICD AdSpeed.

Vortex listened to its customers upon designing the new board, and now plugs the 68000 microprocessor back into a socket on top of the emulator board. This allows for the addition of new products that can be plugged into the ATonce-Plus.

The physical installation of the ATonce board is a simple matter. If you are comfortable with opening your Amiga 500 or 2000 computer and can follow the detailed instructions from the manual, then you should encounter no problems with the ATonce-Plus installation process. However, if you have any indecision about performing the operation, let a qualified technician perform the installation.

I installed the ATonce-Plus myself in the Amiga 500 with a Revision 6A motherboard. Following the instructions in the manual carefully, first open the case of the system, unscrew the six screws that hold the Amiga 500 together, and then remove the top of the case to expose the shielding. Next remove the cable for the keyboard and then the metal shielding. Gingerly remove the 68000 chip from its socket on the motherboard with a flat head screw



Type any key to return to DOS ...

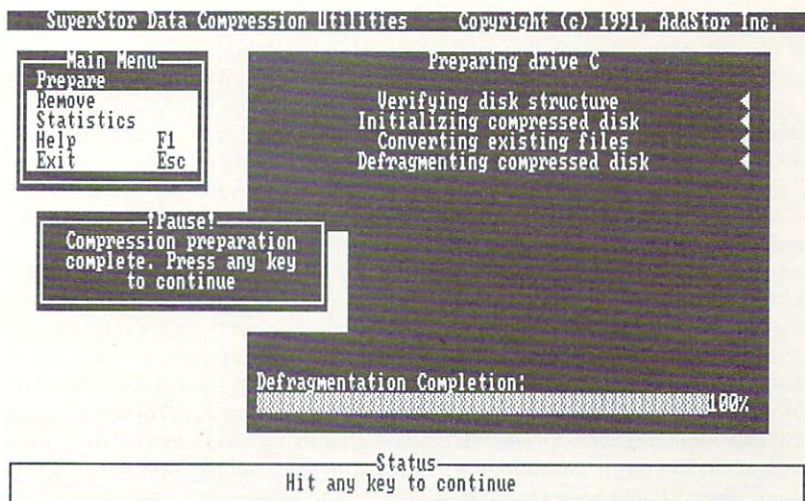
The ATonce-Plus gives you IBM compatibility with Amiga power and speed.

driver and then insert the 64-pin IC socket provided with the ATonce-Plus into the now empty 68000 processor socket. This additional socket is needed to raise the ATonce-Plus board so that it will clear the Integrated Circuits in the area of the processor. Now insert the ATonce-Plus board in the 68000 socket. As with the 64-pin IC socket installed above, take time to make sure that all the pins are aligned properly. When this has been accomplished, place steady but firm pressure on the ATonce-Plus board to set it properly into the 64-pin socket. The final step is to insert the 68000 microprocessor, that was originally removed, onto the top of the emulator board. Here again make certain that the pins are aligned, and insert the 68000 processor with firm, but steady pressure. These steps are really very simple and straightforward, and the manual contains pictures as a guide. However, avoid working in an area charged with static energy because you could damage the sensitive integrated circuitry in the Amiga.

The final area of the ATonce-Plus Installation area deals with upgrading the emulator with an 80C287-12 math co-processor chip. This chip is used to increase the arithmetic performance of the ATonce-Plus. Many software programs that take advantage of math co-processors such as *Excel Multiplan*, *Lotus 1-2-3*, *dbase*, *Autocad* or *Framework*—to name some.

The ATonce-Plus will also work in an Amiga 2000 and you no longer need an adapter board. As with the Amiga 500, the Vortex ATonce-Plus just plugs right into the 68000 socket of the Amiga 2000. Its software compatibility is identical to that of the Amiga 500. This makes the ATonce-Plus a simple upgrade even for an Amiga 2000! However, it will not use any of the IBM slots that come with the Amiga 2000; this means that you cannot add IBM boards to your system to take advantage of the ATonce-Plus processing. Once the installation of all the hardware is completed and the computer is back together again, it's time to load the software to see how it runs.

To check out the ATonce-Plus operation,



The ATonce-Plus software allows for easy set-up. Once the drives have been configured, you are up and running in the MS-DOS world.

you must understand the final section of the manual. This section details the Operation of the ATonce-Plus and is the longest chapter of the manual. Loading the ATonce-Plus Amiga system software on your computer can be accomplished in two ways. The first and simplest is to use the Hard Disk Install program supplied with the software. This will automatically place all the files that you need in their proper locations. The second option is to copy all the files from the floppy disk to the hard drive manually by using a disk utility program such as *DiskMaster II*. I chose to install the software manually, placing the proper files in the LIBS directory and creating an ATonce-Plus directory for the Amiga operating software because I like to know what software is being loaded onto my system. Performing the straight copy method, I encountered no problems at all with the installation. As a further test, I also ran the supplied Hard Disk Install program and had no problems with the Amiga system software loading.

Once you have completed loading the ATonce-Plus Amiga system software, it is a good idea to give your new ATonce-Plus a quick test drive. Now is not the time to worry

about the optional setup areas of the "Install" program which configures your ATonce-Plus until you are sure that the ATonce-Plus is functional and boots your IBM software.

Test Run

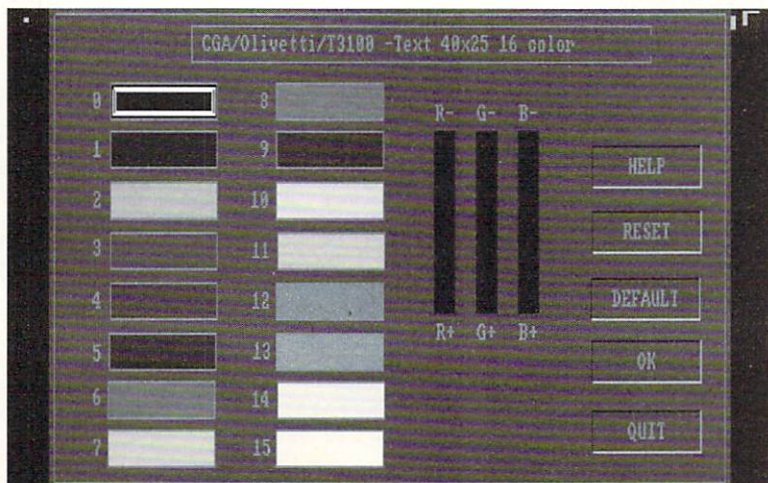
First, double click the left mouse button on the ATONCE icon; the system will start to go through a reboot phase. It will boot the Amiga side of the system and then the IBM side. As the IBM side is going through all of its memory testing, you will see the current configuration of your ATonce-Plus software appear in a well-organized menu. Once the IBM memory testing has been completed, you will be prompted to install a boot disk into the A drive. The A drive on the IBM side is equivalent to DF0: on the Amiga side of the system.

The next step is to insert the IBM or MS-DOS disk in the drive A to determine if the system will boot properly. It is recommended in the ATonce-Plus manual that you should use MS-DOS versions 3.2 or higher. I had boot disks prepared for testin purposes, since I did not want to begin hard disk installation until I was sure that the system would boot properly with all the disk versions. The errors displayed are from the IBM DOS "CONFIG.SYS" file attempting to load files that it cannot find. This is not a major concern for the purpose of our test.

I have successfully tested the ATonce-Plus with MS-DOS 3.3, 4.0, 5.0 and Dr. DOS 6.0. As you can see, there is much compatibility among the different operating systems that the ATonce-Plus can run. Once we have determined that the ATonce-Plus has operated properly in its basic configuration, we can begin customizing it for optimum performance.

Configuration

The configuration of the ATonce-Plus is really a simple matter once you are sure of the basic operation which was just completed. At this point, it really pays to know the most you possibly can about your hardware configura-



The adjustable color settings.

tion, especially since it is the hardware configuration of your Amiga System that will determine the ATonce-Plus software configuration.

To illustrate how the Amiga hardware configuration is related to the ATonce-Plus software configuration, I will describe the hardware setup of my Amiga 500 system. I have a standard Amiga 500 with a 512K expansion board with battery-backed clock for a total of 1MB of memory in my Amiga 500. I am running the 1MB Agnus chip—meaning that I have no fast memory in my base Amiga 500 System. I also have the GVP Impact Series II A500-HD+ with an additional 4MB of memory internal to the GVP unit. Therefore, I have 5MB of autoconfigurable memory available for the system to use. The GVP unit has a Quantum 52MB hard drive which when formatted provides a total of 49MB of Amiga storage.

Customization

There is also an icon called "Install" in the AT-Emulator+ drawer. It is from this program that all the ATonce-Plus customization is performed. The three menus from which you will be performing most of the configuration work are the OPTIONS, MODE, and OPERATION menus. The OPTIONS menu is the most important of the three. This menu controls all the major configuration decisions of the ATonce-Plus. Most of the items can be configured by using the Options menu. We will look at the most important features of this Options menu and discuss configurations.

Floppy

The Floppy Option allows you to set the type of floppy disk drives that you have connected to your system. You can select from DF0 to DF3 and they will be assigned only as the IBM drives A and B accordingly. You will notice that there is a 40-track or 80-track section on this menu. If you were to select the 40-track section, this would be for single-sided 3.5-inch disks, which are not used. Theoretically, you could add a 5.5-inch drive to the system and select the 40 track, but I have never heard of anyone able to use that from the Amiga 500. It may work on the 2000, but I have no way of testing that option. Since I have two 3.5-inch floppy drives connected to my system, I have set them both as 80 track. I then selected the OK button and was placed back onto the main Install Menu. Now we have completed configuring the type of floppy disk drives connected to our Amiga system.

Hard Disk

Once you have properly configured the Hard Disk for IBM usage, you would choose the Amiga Hard Disk section that will be used by the ATonce-Plus.

To test my system configuration, I wanted to use the new Syquest 88MB storage device as my IBM boot disk, and the Syquest 44MB as a

data storage device. First I configured these Syquest devices under the Amiga operating system. To perform this function, I used the GVP FASTPREP (Fig. 4) program that is supplied with the GVP series II A500 HD+. This format program will perform all the main functions to get us ready to prepare our hard drives for operation under the ATonce-Plus software.

Now that the hard drive has been successfully prepared under Amiga DOS, drive names can be placed in the Hard Disk option section of the configuration software. Looking at Figure 4, you will see that the name of the device has been assigned as SYQ88-1. This is the same name that we had given the drive when it was formatted and partitioned.

Graphic Adapter

In the Graphic adapter menu selection, you can choose the type of graphic card that the ATonce-Plus will emulate during its operation. We can choose from CGA, Olivetti, T3100, Hercules, EGA, and VGA. Be aware that the EGA and VGA emulations are black and white and not the full color emulations

that you might expect. Personally, I always select the Hercules video mode as I have found that most IBM software packages support this mode of operation.

Memory/Mouse/RS232/LPT1

Four different functions of the ATonce-Plus are configured in the Memory/Mouse/RS232/LPT1 menu. These functions are the memory allocation of your Amiga, whether you will be using the Amiga mouse as the IBM mouse, how you will configure the RS232 serial port, and finally, what address will you use for the LPT1, which is the printer port. All of these selections are very simple except for the memory.

Starting with the LPT1 address, I have found that it is best just to leave that alone as the default value. The only time that you would want to change this is when you were going to be printing from the Amiga side of the system while you were running the ATonce-Plus emulator. Then you would choose to turn the LPT1 off.

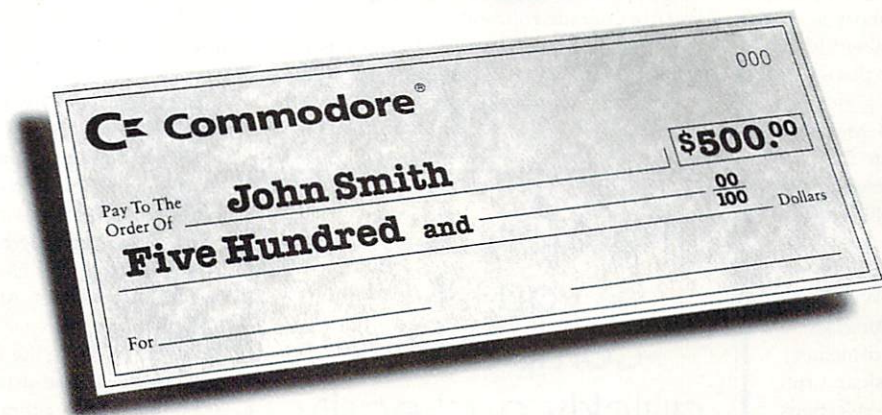
Normally I leave the RS232 disabled since

ATonce Plus Features

- CMOS 80C286-16 CPU, runs at full 16MHz clock frequency
- 512KB Vortex FAST-RAM. Special emulator RAM gives the ATonce-Plus a high system performance.
- Socket for optional 80C287-12 arithmetic co-processor.
- Highly integrated Vortex CMOS Gate Array which contains an interrupt controller and Memory Management Unit.
- Compact SMT (Surface Mount Technology) printed circuit board with very low power consumption.
- ATonce-Plus is inserted directly into the 68000 CPU socket. Installation is easy and solder free. The trap door and expansion bus facilities are free to use with other devices.
- AT compatible BIOS.
- ATonce-Plus offers full 640KB MSDOS base memory without requiring additional RAM expansion (an A500 with 512KB is enough)
- Additional Amiga autoconfiguring memory can be used as IBM Extended or Expanded Memory.
- ATonce-Plus runs unrestrictedly in the Protected Mode.
- ATonce-Plus emulates the following video adapters:
 - EGA and VGA Monochrome graphics
 - CGA with full 16 colors
 - Hercules, Olivetti and Toshiba 3100.
- Fully multitasks with the Amiga computer.
- Complete integration of the internal 3.5" floppy disk drive as a 720 KB MS-DOS floppy disk drive.
- Amiga mouse is available as a serial Microsoft Mouse that is selectable as COM1 or COM2.
- The Parallel interface becomes LPT1 under MS-DOS.
- ATonce-Plus supports Commodore compatible hard disk subsystems.
- ATonce-Plus emulates the sound of an PC/AT.
- ATonce-Plus supports the Amiga real-time clock and the CMOS RAM.
- Runs with all MSDOS versions from 3.2 up to 5.0 as well as Dr. DOS 5.0 and 6.0.



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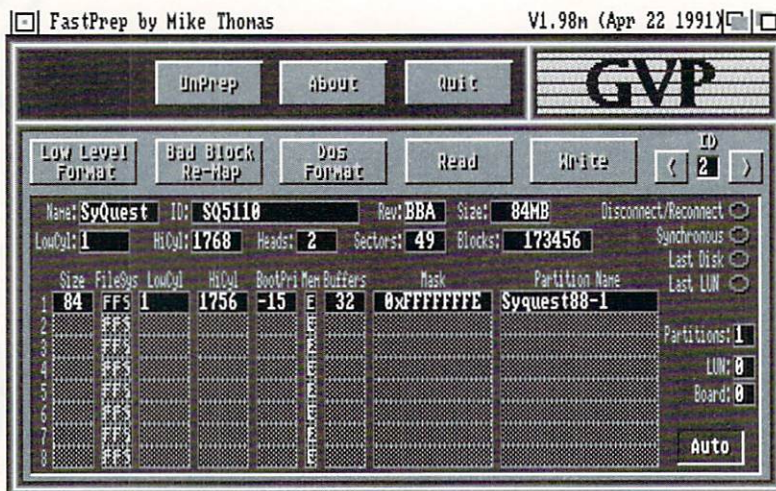
I use the Amiga side of the system for modem communications while running the IBM emulator. However, if you would want to use an IBM communications program with the emulator, select the "COM" port address that would be used by the communications software. Normally, you would choose the default which is "COM port 2" as the mouse would use "COM port 1." This is chosen by default when you select the mouse to use a specific "COM" port; the RS232 would automatically choose the other "COM" port.

Finally, we arrive at the ATonce-Plus memory configuration selection. The more memory that you have in the system, the easier it is to configure your memory allocations. Remember I said you really need to know the memory configuration of the system before setting up the ATonce-Plus software. Since I know that my system has a total of 5MB of memory, the choice of memory allocation was relatively easy. Since I knew I would be running *Windows*, I decided to place 1536K of memory as extended memory. Some software packages look for Expanded Memory; therefore, I decided to allocate 512K of memory to this area. Also, I increased the base memory from 512 to 640. I made these selections because the GVP A500HD+ was expanded to have the additional 4MB of memory. When the ATonce-Plus software is running, I will still have available over 1.5MB of memory on the Amiga side to multitask and run Amiga software. When all the selections had been made, I clicked the left mouse button on the OK box and was finished with this Option menu screen.

The final "Option" menu screen that I would like to bring to your attention is the "COLORS" options at the bottom of the menu. Figure 2 illustrates the CGA 16-color setting and how to customize it to your liking if you were going to be using the CGA graphics mode. This provides some idea of how flexible the ATonce-Plus software is concerning the graphics capabilities of the emulator system.

Mode Menu

Those of you not planning on upgrading the original ATonce hardware to the ATonce-Plus hardware will be happy to know that the new software also works with Vortex's original board. In the Mode menu area, the choice is made as to which board will work with the ATonce-Plus software. I have tested this software with the original version of the ATonce



The hard drive had to be prepared for operation under the ATonce-Plus software.

board before installing the ATonce-Plus hardware. This version of the software worked flawlessly with the original Vortex emulator. Therefore, those of you who have the original ATonce should contact Vortex at the address listed at the end of this article to find out how you can upgrade your software. I recommend the upgrade especially since Vortex has upgraded its BIOS to 2.21. This new BIOS software increases the hardware compatibility with

marked with a ">," the execution of the AmigaDOS startup-sequence is terminated as soon as the emulator performs its initial Amiga reset.

If the sub-menu entry "ATonceOnly"—which is not the DEFAULT-setting—is marked with a ">," the complete AmigaDOS side is disabled as soon as the emulator performs its initial Amiga reset. This means that it is not possible to run other software than the ATonce-Plus on the Amiga.

Important note: If you have a non-auto booting hard disk, do not enable the above functions. Also a problem may arise if an auto-booting hard disk is used that mounts only the boot-partition automatically and all other partitions by means of the startup-sequence. In that case "Stop Amiga Boot" must be disabled to get access from the MS-DOS side to this non-auto-mounting partitions.

Amiga 2000 ATonce-Plus Installation

To install and operate ATonce Plus in a A-2000, you'll need no special adapter. The 68000 socket is located in the right-front end of the A2000-motherboard. The power-supply and floppies have to be removed to install ATonce-Plus. All handling and installation notes given in the manual for the A500 also apply to the A2000. While I was not able to test these installation instructions personally before submitting this article, I talked with Manta Software in New Jersey (800) 477-7706, who has claimed that the ATonce-Plus has been working extremely well in Amiga 2000's. I will provide additional information on the Amiga 2000 installation and operation in next month's installment.

We will continue to look at the ATonce-Plus operation and the installation of the unit in an A-2000. Also to be discussed will be the ATonce-Plus IBM software installation.

•AC•

The ATonce gives you IBM compatibility quickly and easily, and allows the benefits of the Amiga's power.

standard IBM programs.

Operation

The last menu area to be discussed is the Operation menu. It is different from anything else that we have seen in the Vortex software. When you click on this menu entry, two sub-menu entries will appear, which are Stop Amiga Boot and ATonce Only—a ">" will indicate an enabled function.

If the sub-menu entry "Stop Amiga Boot"—which is the DEFAULT-setting—is

Please Write to:
Rick Mataka
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

ASDG'S

Art Department Professional v2.0

by Merrill Callaway

ASDG's major upgrade to Art Department Professional (ADPro v2.0), their indispensable image processing program, adds powerful new operators, and the user interface is much improved. Many of the features are now completely WYSIWYG (What You See Is What You Get). There are too many new features to allow a complete discussion of all of them. We are going to look at some of the more interesting new features that set ADPro above the competition. Rest assured: Once you get your hands on this software, you'll get unprecedented power to manipulate images.

Since my review of the former version of ADPro was published last October (V. 6.10, p. 23), we will not go over that ground again. Version 2.0 operates in the same modular way, taking raw data and rendering it in ways which do not affect the data, or operating on it which does change the data. The look and feel are familiar, but just beneath the surface lie some amazing new features.

The New Interface

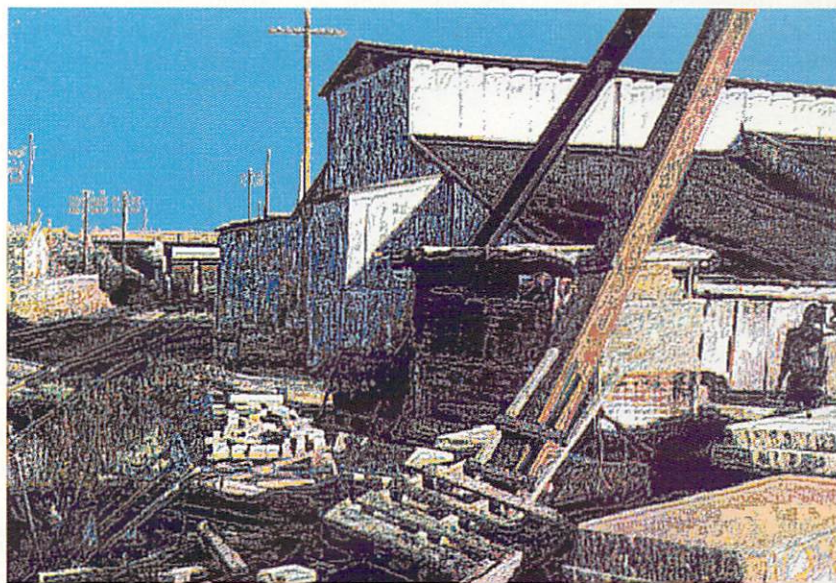
The interface looks the same, except that under Kickstart 2.0, the "requester buttons" for Load, Save, etc. now pop up a requester from which to choose. The old style buttons which cycled through the choices one way if you clicked on the right and the other way if you clicked on the left remain if you run under System 1.3. These "choosers" have a "Most Recent Used" (MRU) button to check. Then, your latest choice remains at the top of the list until replaced by another, which bumps everything down one place. The choices may also be sorted. You may choose to Accept or Accept and Do Something, depending on the chooser you are in. You may Reset to return everything to the way it was when you opened the chooser.

The New WYSIWYG Operators

I'm not the only one who requested Perry Kivolowitz to make the old operators visually friendly, but I cannot help feeling that ASDG cares for me personally. It's a rare thing to be listened to when you contact a software company, and for them to be receptive to suggestions and then to exceed your expectations...well, it feels good. My review of the Epson ES-300C scanner and software driver by ASDG was published last November (V. 6.11, p. 34). I was overjoyed to discover that all the operators that require WYSIWYG use a version of that same draggable box requester. The image is represented in gray scale. There are rulers in metric or English, pixel counts and numeric scale readouts that change dynamically as you change the box. You may keep or ignore size, aspect, or pixels. The new WYSIWYG interface is completely familiar to me, since I have an Epson scanner. It will take

newcomers only a minute or two to discover how well the visual requesters work. For ARexx control, the older type operators are also supplied. The keyword "Visual" is tacked on the end of all operators that give you the WYSIWYG choice. I was happy to find that the Composite

the old palette editor. Since ADPro doesn't circumvent the Amiga display limitation of a 16-color palette width, similar colors are displayed as the same color, but the HSV or RGB numerical values are indeed different, and will affect the data. You may black out the high-



If Andrew Wyeth had visited the industrial section... Convolve and Composite were used on a scanned photograph. The sky was retouched in Deluxe Paint IV.

Load option shares at least some of this new WYSIWYG feature. As before, you only see a rectangular outline of the new picture, but you may now choose to see a gray scale visual picture of the original. The manual says that loading the image twice from disk was thought to be too "expensive in terms of your time" for the new image to be shown. In my experience, compositing "blind" is much more time consuming! My ideal would be the means to choose either option for the new image.

The New Palette Editor

Under Kickstart 2.0, you may edit 256 colors on screen. Under Kickstart 1.3, you get

lights and the sliders using the right mouse button to better see a color without adjacent interference. There are extensive range controls for implicit and explicit ranges in both RGB and HSV. Ranges are highlighted in green or red; red ranges—the ALT key being pressed during range selection—are unaffected by other overlapping ranges. There are also the usual Copy and Swap buttons.

JPEG File Compression

A new JPEG loader and saver are included. JPEG (Joint Photographic Expert Group) is a standard in the industry for compression algorithms which can dramatically



This image was done entirely in ADPro 2.0, using many of the new tools. There was no painting at all. The original images were scanned by the Epson ES-300C in 24-bit color using the ADPro loader

tween characters (tracking), attributes such as italics or bold, and so on. With the exception of rotating text, everything you can do in a DTP program is supported in ADPro. You may use outline fonts, anti-alias or blur the edges, select how transparent the text will be and even give it an embossed look, all within the ADPro operator. Then, when you're all set, your text is placed in a draggable box that has registration lines going out to the rulers at the borders to insure accurate placement. Once you have placed the text with the mouse, just click on Accept and the text is painted on to your image exactly where you see it placed over a gray scale likeness of your picture. I found one bug here. If you have a gray scale picture to start with, and try to "Accept" an "outline scalable font," the screen will freeze up, and you must reboot. A version 2.10 is now available free to registered users who already have AdPro 2.0. Perry Kivolowitz has assured me all known bugs will be squashed. ASDG is the best company I know when it comes to response to users! To sum up in a few words, if you work with images, let me affirm that ADPro is essential. ADPro 2.0 is *state of the art!*

•AC•

Art Department Professional 2.0

Price: \$299
ASDG, Inc.
925 Stewart St.
Madison, WI 53713
(608) 273-6585
Inquiry #227

Please Write to:
Merrill Callaway
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

decrease the size of a graphic file and yet retain most of its clarity and detail. There are settings in ADPro for various amounts of compression from around 10 to 1—with minimal image loss—up to 40 to 1 or better. I repeatedly compressed a graphic file and was amazed at how small you can make a file and yet be unable to tell much difference in the image quality. This is a welcome addition to the Amiga, and it allows one to import files from other platforms which have been compressed with JPEG into JFIF format.

DCTV Operator

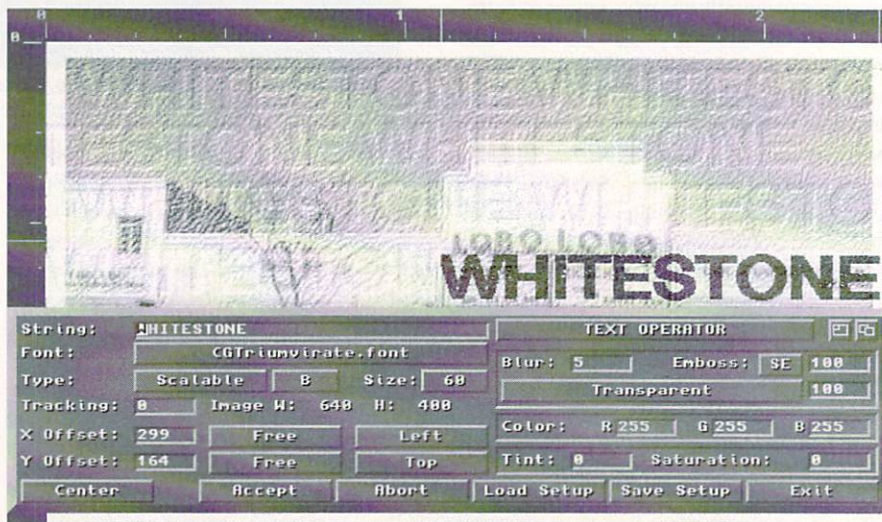
This operator renders an ADPro image directly to your DCTV device and displays it on DCTV's NTSC monitor, a handy feature for testing the affects of ADPro operators on a DCTV image. For instance, if you wish to alter the balance of one of your DCTV images saved in 24-bit or Display format, but not Raw format, you can load the image into ADPro, adjust the Balance controls, and then use the DCTV operator to render it directly to DCTV. When you like the results you may Apply_Map to change the data, and save the DCTV image as a 16-color image back to disk. The DCTV operator is a great timesaver if you are enhancing a DCTV picture. It also allows you to convert another image into DCTV format easily.

The Convolve Operator

Convolutions open a new universe of images to the computer artist. The technical explanation of a convolution is dry, but the results are truly dramatic. Every pixel in the screen is surrounded by other pixels. Pick a pixel, and construct a matrix, a table of rows and columns, around it for, say, 3 x 3 pixels, with the pixel in question at the center. Then calculate a weighted average for that pixel. Color values are vectors and can be summed and averaged. Specify a "convolution matrix" of weights. Put each color value underlying a weight in the matrix into the average calculation, biased by the value of the weight. Then, take the new weighted average value and decide how much to mix it into the value of the original pixel. Do this for all pixels, and you have a convolution operator. That's the easy part. Visualizing how a matrix will affect the image is where the real expertise comes in! Fortunately, ADPro comes with two dozen proven convolution matrices, with evocative names like "BigSharpen" and "DeepPress" and "WoodCut." DeepPress, for instance, makes your image look as if it had been pressed into leather. The combinations of convolutions with each other and with operators like Line_Art are truly endless; a world to explore.

The Text Visual Operator

ADPro2.0 takes full advantage of the System 2.0 scalable CompuGraphic fonts in its text operator. (For more information about scalable fonts, read about AGFA in this issue's "New Products," p. 16—Ed.) ADPro's text operator is as user friendly as you can get. There is a string gadget to enter text, and gadgets to select bitmapped or scalable fonts, sizes, space be-



The WYSIWYG interface for the Text_Visual Operator. Note the embossed look.

To say the competition of 3-D programs is heating up is putting it mildly. In the last 12 months, with the notable exception of the Sculpt-Animate series, every major Amiga 3-D program has gone through or is heading into a major upgrade. *Draw 4D* went Pro, *3D Professional* gave us a powerful ray-trace engine, *Imagine* and *Lightwave* went to 2.0, *Caligari* came down to earth with a DCTV/HAM version, and *REAL 3D* offered a major update with pixel mapping and morphing. One can easily see that 3-D rendering remains a diverse and important element of the Amiga's multimedia drawer. Common themes prevail; however, the methods from conception to final rendering is decidedly different with each Amiga 3-D program. Perhaps the most different is the latest entry into this already crowded market entitled *RayDance* from Radiance Software. Although *RayDance* sports an icon-based command window, the method of object construction and rendering is primarily script driven. Not short of features, it includes 24-bit output, fractal trees, terrain, mountains, tweening, haze, shadows, videoscape object importing, object lathing, and more.

RayDance is basically a highly versatile 3-D rendering language. Instead of assembling scenes with objects using standard Amiga windows and icons, you tell the program what to do via a script. While the instant response and 3-D viewing is lacking, script-driven programs can provide far more versatility than standard icon-based counterparts. A suitable parallel would be the difference between *Deluxe Video* (Electronic Arts) and *The Director* (Right Answers Group).

RADIANCE SOFTWARE'S

RayDance

3-D for Power Users

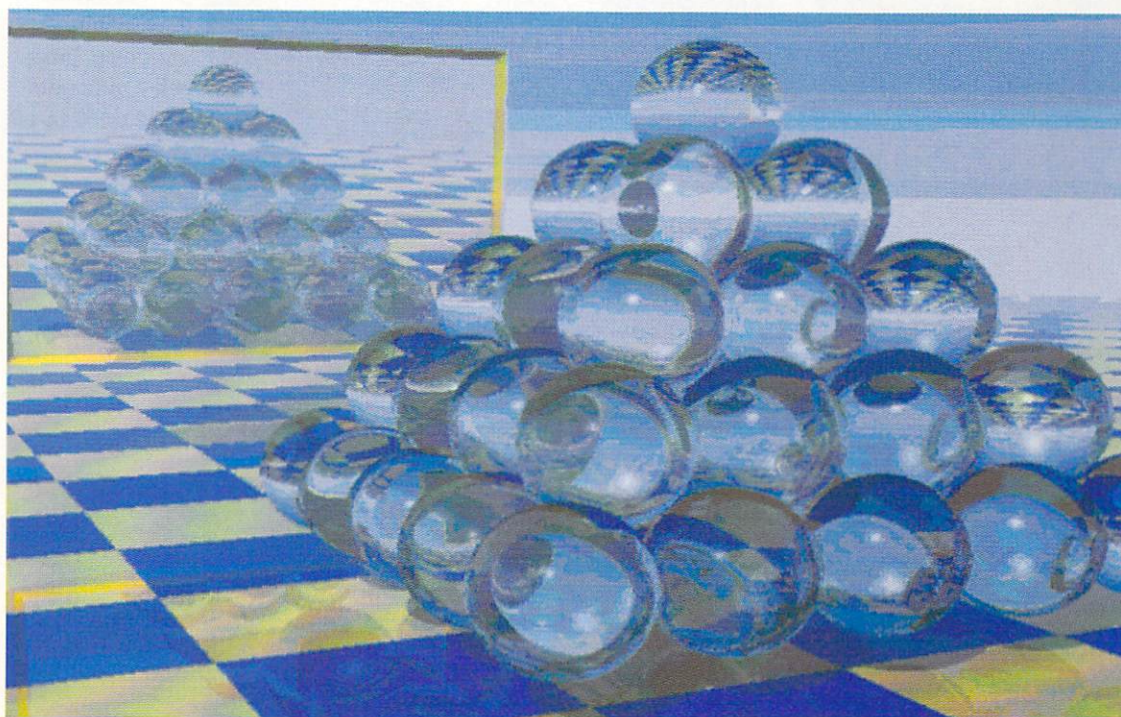
by Frank McMahon

RayDance's manual is a hefty 200-page spiral-bound book that features large print and includes many thoughtful features such as a list of all illustrations with corresponding page numbers. Installation on a hard drive is easy, and although the program requires a minimum of 1MB, I would suggest a lot more, as well as a fast processor. Even medium-complexity renderings taxed my 2500. Also an external text editor is required for creation and altering of script files, although any of the Workbench offerings will work fine. *RayDance* generates images in wireframe, 8-bit grey scale, or 24-bit color. Even though the program can generate a HAM-mode preview, you will need to purchase a conversion program to view created images in standard Amiga resolutions. If you have a hi-color device, you can directly load in the 24-bit rendered frames. As for ani-

mation, *RayDance* can render all the frames but they must be assembled outside the program, and an ARExx script for *Art Department Professional* batch-converting is included. Also worth noting is that the author runs a support BBS for the *RayDance* software.

Functions and Features

What can you do with these script commands? Well, just about anything from setting a object texture to moving a mountain. The most basic element of 3-D modeling is the object itself. Statements are used to create polygons, up to 100 sides, and the polygons can be concave or convex. Holes are allowed and are relatively easy to produce as long as they lay on the same plane as the parent polygon. They can be a polygon up to 50 vertices or a circle with a center position and a



A fairly complex scene featuring reflection and haze. It took 18 hours to render on a 2500 with 5MB in 24-bit mode Hi-res overscan with shadows and haze toggled on.

radius amount. Built-in objects like spheres and floors (ground) are available with some variations of ground surface configurations such as Bullseye (concentric rings of alternating colors and surfaces), Gingham (alternating colors on square and rectangle patterns), and Texture (a checkerboard of two alternating mapped pictures). Videoscape objects can also be imported and used in any scene. Creating objects in standard 3-D programs and converting them to videoscape could prove to be a huge timesaver. Texture mapping is available including the ability to map HAM and IFF24 Amiga images. Standard projective mapping includes planar, cylindrical and spherical. Texture flags can be added to help smooth jaggies in wrapped images. Wrap mode is used for more realistic texture maps and works only with objects created by RayDance, however. Standard color values can be assigned with an excellent option to create a controllable gradient spread based on RGB or HSV attributes. This rainbow-like painting of objects can provide very impressive results. How light reacts to the surface of an object is the key to creating numerous realistic textures. RayDance takes into consideration adjustable variables to create mirror, shiny, diamond, glass, ice, water, and just about any surface you can imagine. Perturbing the surface by a random amount is an excellent feature that enhances realism. Specular, diffuse, refraction, and reflection combine for an infinite amount of possibilities.

RayDance is a highly versatile 3-D rendering language.

Bump-mapping is also available, but only on objects created in RayDance. Also this type of bump-mapping, as in other 3-D programs, is more simulated bump-mapping, as bumps will not be visible along the outer edges of the object and will not cast shadows.

Object Generation

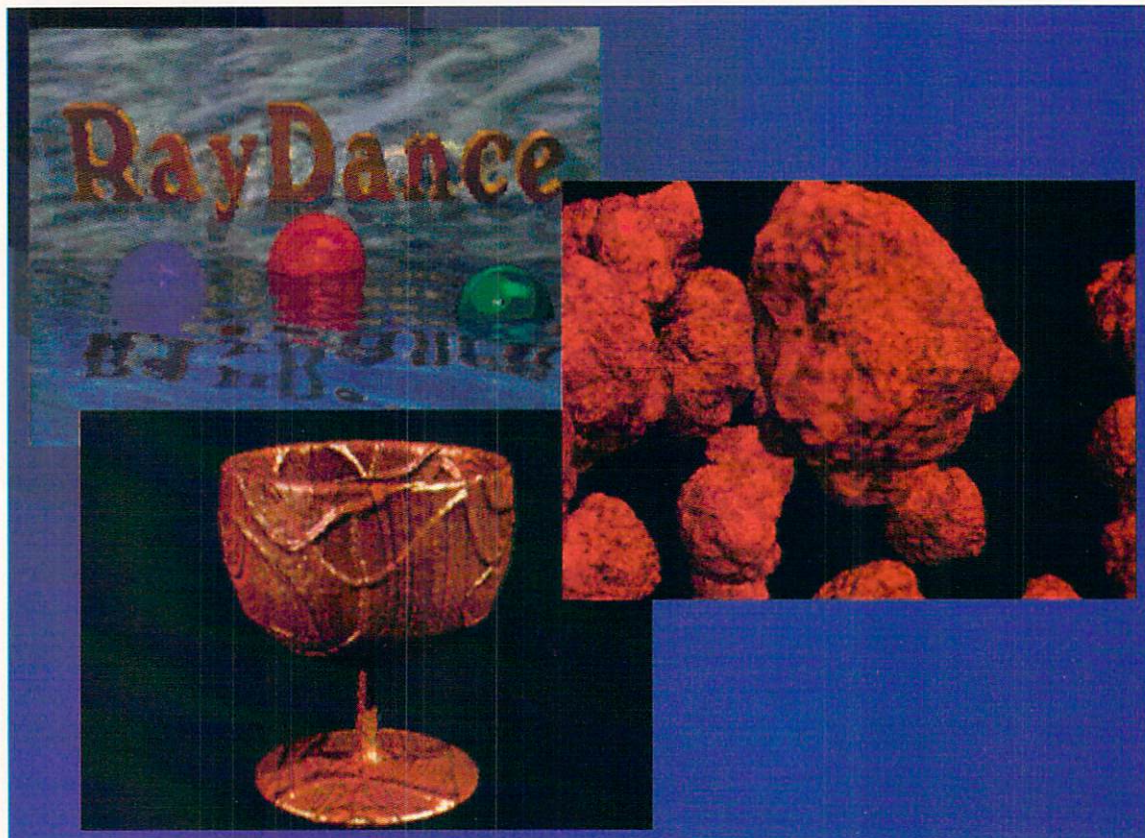
Objects can also be created automatically. The best tree generator I've seen in a 3-D program comes with 3-D Professional, but the one with RayDance is more impressive. Leaf color, taper, droop amount (great weeping willows!), twig size, trunk-splits, and much more make creating realistic trees easy. Texture mapping of leaf patterns is also possible. Landscape generating complements the trees and there is

also an option to create mandelbrot objects. Objects can be extruded and lathed from within the program. One feature important, especially for animating, is hierarchical object grouping. This allows one object to be the child of a parent object, which comes in handy during motion animating.

Replicas (cloning) are nothing new but treated differently in RayDance. Although a large amount of replicas will take additional rendering time, the actual amount of objects takes up little additional memory. Replicas actually just reproduce the main object in a different location. The program has only one true object in memory, but can repeat it within the scene from five to hundreds of times. This allows scenes with, as the book says, "millions of polygons." The only real drawback is the replica must be the same size as the "parent"—it can be a different color or texture—but the possibilities are endless with this function and ideal for low-memory computers.

As for lights, there are three types: ambient, point, and infinite. In addition, there is an option for turning lights invisible by setting a flag, meaning that without the flag the lights appear in the scene as a sphere. Camera positions are pretty basic with features such as target position, viewing direction, focal length, and *f*-stop. Animation controls are provided by the included tweening command, which allows interpolating key positions, alignments, shapes, and settings.

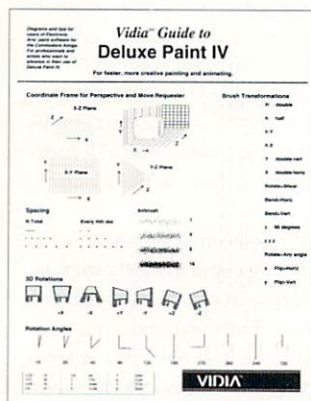
(continued on p.39)



Several examples of RayDance's powerful texture and bump mapping. These were rendered at 320x200 24-bit mode.

"Know a craftsman by his tools."

Whether you are building your fortune, or just your reputation, your Amiga tools should be top-rate.



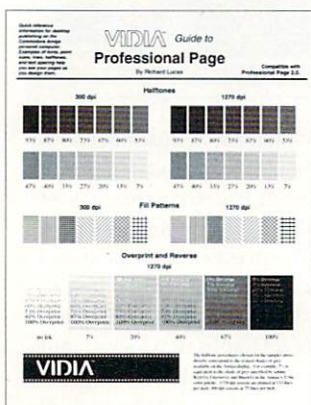
If you use Deluxe Paint IV, you know of its many powerful features. Unfortunately, sometimes it's difficult to know which one to use. The *Vidia Guide to Deluxe Paint IV* is a visual reference which shows pictures of results and how to get them. Look at the Smear and Shade swatches, for example, and you'll know instantly which brush mode to use. To rotate a brush, look for a picture that matches what you want. The caption tells which axes (X, Y, or Z) and direction (+ or -) to use. There are sections on gradients, spacing, symmetry, brush transformations, perspective mode, cyclic moves, and the Move Requester. Also included are keyboard equivalents and the Movie Catalog, a cookbook of animation effects. Over 70 diagrams; 4 pages; 8.5" x 11".

Vidia Guide to Deluxe Paint IV \$3.95

Like all of our quick references, the *Fast Guide to Amiga CLI* is slim but powerful. It covers both 1.3 and 2.0 and points out differences between them. Every AmigaDOS command is fully described, every option, every keyword. We've included many examples, often several per command, so you can use the command quickly. To minimize confusion, we've put script commands in their own section with a discussion of script arguments and directives. Side boxes cover I/O redirection, piping, filenames, wildcards, and Shell commands. If you've ever hunted through various books looking for documentation on AmigaDOS, you'll appreciate having that far-flung info collected together here. 12 pages; 8.5" x 11".



Fast Guide to Amiga CLI \$8.95



The *Vidia Guides to PageStream* and *Professional Page* are sample books that show you what you get before you print it. See what type and graphics look like at 300 and 1270 dpi. Features: Samples of Adobe, Compgraphic, and Soft-Logik typefaces; halftone fills; pattern fills; combinations of line patterns, weights, and halftones; text sizes from 1 to 120 points; line spacing (relative and leaded); reverse type; baseline shifts; halftoned text; tracking shifts; text passages in various type sizes; keyboard codes for Symbols and ZapfDingBats and other special characters. Each book also includes a keyboard command summary and other info tailored to the software it covers. VGPP 12 pages, 8.5" x 11"; VGPS 16 pages, 8.5" x 11".

Vidia Guide to PageStream \$7.95 Vidia Guide to Professional Page \$7.95

Vidia books and quick references are available at many Amiga dealers. To order, add 75 cents per copy for postage and send check or money order for U.S. dollars drawn on a U.S. bank to Vidia, P.O. Box 1180, Manhattan Beach, CA 90266. (310) 379-7139.

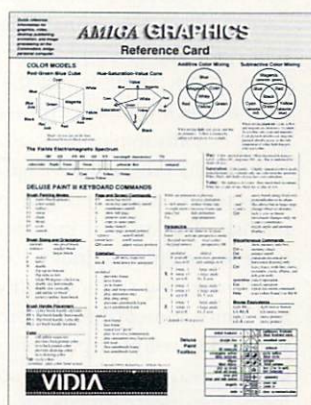


This is it: The last word in Amiga text editing. The *Amiga Text Editor Quick Reference* is an encyclopedic quick reference covering eleven major Amiga text editors. If you use CygnusEd, TurboText, TxEd Plus, Uedit, DME, MicroEMACS, Z, LSE, Ed, Edit, or even Notepad, you'll find a complete quick reference for your editor's keyboard commands and command language. With the *Amiga Text Editor Quick Reference*, you can find obscure functions, write macros more easily, compare features, shop for a new editor, or prove to the heathens that your chosen editor is indeed vastly superior. It is eleven products in one, and unique to the Amiga. Your PC and Mac friends will wish they could get one for their machines. 20 pages, 8.5" x 11".

Amiga Text Editor Quick Reference \$7.95

How about some hardcore graphics? Whether you're a cyberpunk, electric art connoisseur, key animator, video producer, 3D sculptor, or rocket scientist, a small, powerful map of the Amiga graphics engine wouldn't hurt. The *Amiga Graphics Reference Card* is full of all sorts of information on color, light, pixels, IFF, fonts, halftones, video modes, animation and the keyboard mysteries of Deluxe Paint III, at your fingertips.

2nd edition; includes screen pixel rulers for NTSC and PAL. 4 pages, 8.5" x 11".



Amiga Graphics Reference Card \$3.95



Why should any Amiga programmer have to sift through hundreds of pages of books and manuals to find simple information, like printf codes, or the syntax for bitfield declarations, or the ANSI sequence to turn on boldface? You use this stuff constantly; having to look it up slows you down. That's why we designed the *Amiga Programmer's Quick Reference*. It contains a complete C guide; 68000 assembly instruction list; Guru meditations; ANSI screen codes; Console device codes; Rawkey codes; options flags for SAS/Lattice C and Aztec C; a 256-byte ASCII table with binary and the Amiga character set; and *Doobie's Do's & Don'ts*, bits of wisdom for Amiga programming. 16 pages, 8.5" x 11".

Amiga Programmer's Quick Reference \$8.95

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TRSL'S

Charts & Graphs

by William M Frazier

You're up against the wall. Tomorrow you give your annual budget presentation, but you just received the data today. Now you need to prepare your final notes and produce some graphics to simplify the data. *Charts & Graphs*, from TRSL, is just the program you need to quickly produce presentation quality graphics with a minimum of effort. Your *Charts and Graphs* program package includes three unprotected disks and one comprehensive manual. The manual includes an extensive table of contents and index. It begins with the usual overview and installation instructions, and jumps immediately into program tutorials and menu descriptions. The organization is different from most manuals I've used in the past, but it allowed me to make productive use of *Charts and Graphs* quickly and painlessly. Hard drive installation is also easy. Simply click on the *Charts & Graphs* disk icon and then drag the program and data icons into the hard drive drawer of your choice. The purpose

of *Charts & Graphs* is to provide the Amiga user with "a sophisticated, modestly priced charting package." TRSL accomplishes their goal with an easy-to-use, dynamic program.

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Data Entry Window

YEARS	INDEX
1 1950	70.8
2	77.5
3	79.0
4	79.8
5	80.7
6 1955	80.3
7	80.5
8	83.4
9	86.5
10	86.8
11 1960	88.1
12	89.4
13	90.4
14	91.4
15	92.7
16 1965	93.8
17	96.4
18	98.9
19	102.8



The *Charts & Graphs* program consists of two basic screens. First is the data entry screen, where all data is either entered by hand or imported from another program, such as a spreadsheet or database. The other screen is the charting screen, where you tell the program what type of chart you wish to create. There are options to create up to 45 different charts or graphs. You can enhance your graphs by adding legends, text, color, and IFF backdrops, to name just a few of the available options.

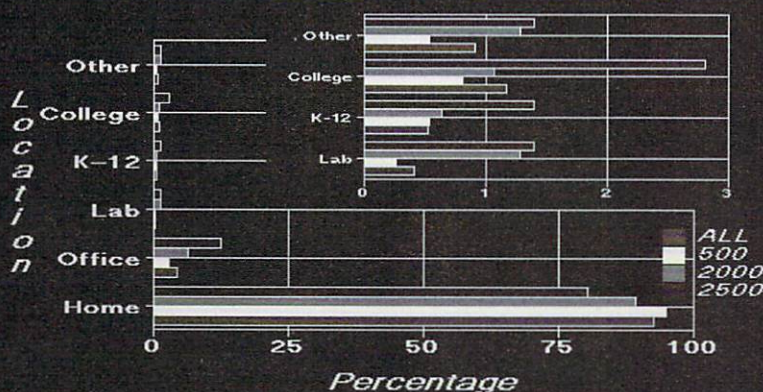
The data entry screen is similar to what you see when opening a spreadsheet program. The window will consist of a number of blank columns and rows. Both text and numerical data are entered here. The data you enter is used in the charting window as axis labels and the raw data required to make up the chart. If you have existing data in a spreadsheet or database program, the data can be imported to *Charts & Graphs*. The program will import data delimited in three different ways: comma

delimited, tab delimited, or space delimited. These options should accommodate the export formats of most data bases and spreadsheets.

Occasionally, data that you import into the program will be oriented improperly, with the category titles going down the first column, and the category values extending off to the right. *Charts & Graphs* provides a simple menu selection titled *TRANSPOSE*, which will change the rows into columns to properly orient the data for use in your charts. The data screen also provides simple math operators which will allow you to add, subtract, multiply, or divide the values in any two columns and create a new, third column.

Left: The Consumer Price Index as tracked by *Charts & Graphs*. Above: The program's data base entry screen.

PRIMARY LOCATION OF AMIGA USE



Where Charts & Graphs outshines the competition is in its ability to easily create complex, multi-part graphs.

The charting window provides the tools that allow Charts & Graphs to create your presentation quality graphics easily and quickly. The options available in this screen are too numerous to mention them all in this review, but I will try to cover as many as I can. First, the total number of graphs that are available should satisfy your need for nearly every chart type or design you can think of. There are

is less than presentation quality. Output suffers from the usual problems associated with bit-mapped fonts, and diagonal lines produce a jagged appearance. I was unable to test the printed output on a PostScript printer, but Charts and Graphs provides options to print to a PostScript printer or save your output as a PostScript file to disk.

pointer, clean full screen images can be created and saved. The basic operations required are to create and size a graph, and then move it to the transfer slate. In this manner, you can create multiple graphs, and then paste them onto the same transfer slate, until you obtain the desired effect. As an example, a pie chart could be created showing the breakdown of computer sales in different regions of the United States, and then copied to the transfer slate. You could then create a bar chart breaking down computer sales for a single region by computer type and copy it to the same transfer slate. A chart like this is simple to create. If the data required was already available, you could create the chart in minutes.

Other capabilities of this program are the automatic creation of value labels and legends, the ability to scale and set the interval of the X and Y axis values, and use different fonts and font sizes. You can change the options and attributes of nearly all text, screen colors, and drawings on your charts. The program enables you to present a single data set in an endless number of perspectives.

The question remains, is this the program for you? If you need to create complex charts and graphs for either slide displays or video presentations, I recommend it without hesitation. I also recommend it for use in desktop publishing applications where the need to

Charts can be displayed in color—with default, user designed, or previously created palettes. Palettes may also be imported from IFF backdrops or brushes created with paint programs.

multiple line charts, pie charts, bar charts, and column charts from which you may select. The documentation provides a discussion of which chart type is most appropriate to use with different types of data, a welcome relief for anyone unsure of which chart to choose. The type of chart you select can be displayed in 2-D or 3-D perspective.

Charts can be displayed in color—with default, user designed, or previously created color palettes. Palettes may also be imported from IFF backdrops or brushes created with paint programs. Charts may also be displayed in a default or user-defined gray scale and in black and white. The color options are effective when creating graphics to be used in video or slide displays. The gray scale or black and white options work best when you direct the output to your printer. Printing to a dot matrix, or even an inkjet printer, results in output that

The program provides the basic drawing tools to add boxes and lines to your charts. The boxes can be either filled or hollow, in any color in your palette. You can draw both solid or dotted lines, with five different selections for both the line width and the dotted line pattern. You can also add lines with either left, right, or double-headed arrows. If you require serious drawing capabilities, save the chart as an IFF file and finish it with your favorite paint program. The tools provided here are of use for only the simplest drawing requirements.

Where Charts and Graphs outshines the competition is in its ability to create easily complex, multi-part graphs. This is accomplished with what TRSL calls the TRANSFER SLATE. The transfer slate is basically a second page where images from the charting screen are copied. By turning off the transfer slate screen borders, and reducing the size of the

import graphs is important. It provides many enhancements not available in most spreadsheet graphing modules. I would not recommend it if you just want to print full sheet, black and white graphs on a dot matrix printer. The poor font appearance and inability to produce smooth diagonal lines reduces most of the value gained in added capability.

•AC•

Charts & Graphs
Price: \$99.95

TRSL

3950 Koval Lane, Suite 3049
P. O. Box 94263
Las Vegas, NV 89193-4263
Inquiry #228

Please Write to:
Bill Frazier

c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-0869

NEW HORIZON'S

ProWrite 3.2

by Rick Broida

About a year ago I had the opportunity to review New Horizons' *QuickWrite*, a diminutive word processor ideal for no-frills writing tasks. Recently I took a peek at *QuickWrite*'s older brother, *ProWrite*, in its latest incarnation: version 3.2.

Although no new word processing ground has been broken by this release (hence 3.2 instead of 4.0), *ProWrite* is getting better with age. A host of new and/or improved features make the software a pleasure to work with. Among them: support for PostScript printing; improved start-up options and color handling; a 3-D interface similar to that of *Workbench 2.0*; retrievable document settings; and a speak option.

ProWrite Speaks Up

The latter has quickly become my favorite option. While I've always been a fan of the Amiga's built-in speech capabilities, I've never believed they had a practical use. *ProWrite* proves otherwise. By selecting the Speak Now

option, the Amiga will say whatever you've typed, start to finish. A requester allows you to alter the voice's type, pitch and speed, just like in *Workbench*'s *Speak* tool. Plus you can set *ProWrite* to speak as you type, a cumbersome option that significantly slows things down but might be useful for those with visual impairments.

But where's the real payoff? After you've typed a masterful short story or an enlightening Civil War essay, print a copy and have *ProWrite* read it back to you while you follow along. Presto: innovative proofreading! As any writing instructor will tell you, hearing your words read aloud makes misplaced commas and other grammatical errors more conspicuous, thus pinpointing spots where corrections are needed. And though the voice itself sounds like Ivan Lendl with a head cold, it is adequate when following along with a hard copy of the text.

Who knows if New Horizons had this idea in mind when they added the feature, but

who cares? It seems silly at first, but the *Speaking* command really makes a great proofreading tool. Try it. You might also try one of *ProWrite*'s new screen options, which benefit primarily Amiga 3000 users in that they require AmigaDOS 2.0 and the enhanced chip set. And the productivity mode, for example, renders a 640 by 480 non-interlaced display, but only if you've got a VGA or multisync monitor. A super-high resolution mode of 1280 by 400, which displays only two- and four-color screens, also needs AmigaDOS 2.0 and the enhanced chip set. In short, *ProWrite*'s standard display is fine for the majority of users, but those wishing to modify start-up screen options have the leverage to do so.

P.S. It's Included

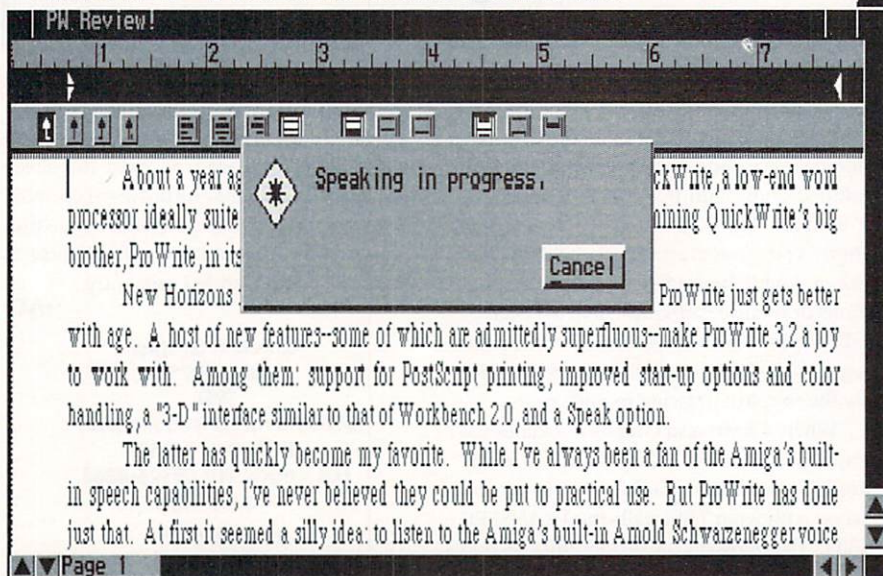
Leverage also defines *ProWrite*'s enhanced printing features. Until version 3.2, anyone wanting to use *ProWrite* with a PostScript-compatible printer needed to purchase New Horizons' *ProScript* module. Now the option has been inconspicuously integrated into the *Print* requester.

Included on the *ProWrite* "Extras" disk are four standard PostScript screen fonts: Times, Helvetica, Courier, and Symbol, each in sizes ranging from nine to 24 points. By using the included *System Mover* utility, you can quickly and easily install these fonts on your system. *ProWrite* can also make use of *Professional Page* fonts, so if you're a desktop publisher, you've got a sizeable font reservoir ready for use.

I must note that when you select a PostScript printer, *ProWrite*'s default setup addresses the serial port instead of the parallel. Why? Beats me, as most printers use the latter. Count on having to make this inane change every time you want to print PostScript, unless you alter and save your Program Settings, as detailed below.

Serial ports aside, PostScript compatibility has been integrated flawlessly. Unfortunately, dot-matrix printing is another story. *ProWrite* 3.2 adds a new "high quality" print mode, which the documentation says will produce "jaggie-free" output. Indeed, the end result looks great, but achieving the end result poses problems. Using an Epson EX-800, a solid, reliable nine-pin printer, every attempt to use this mode produced atrocious-looking text. I tried every font I could find, from *ProWrite*'s own to Amiga fonts to *Professional Page* fonts, and everything came out looking rotten. Finally I resorted to the instruction manual for help—a move I'm admittedly stubborn to make because printing is such a basic feature of any word processor. Eventually I discovered the problem: I hadn't adjusted the *Print Density* to achieve the maximum possible print resolution. Where to make this ad-

ProWrite 3.2.1 - © 1987-91 New Horizons Software, Inc.



By selecting the *Speak Now* option, the Amiga will say whatever you've typed, start to finish.

justment? Not in the Print requester, as one would expect, but in the Page Setup requester.

Nevertheless, I hiked the Print Density up to maximum and away the printer went—sort of. Because the new high quality print mode sends a page of text to the printer as a graphic, print speed suffers. Plus I found that the Epson's own Near-Letter-Quality (NLQ) mode produced cleaner text than the high quality mode. Because ProWrite has an NLQ option right in the print requester, that's the one I'd recommend. And it'll still take some tinkering with fonts to get good results from a dot-matrix printer. Simply put, ProWrite's new high quality print mode leaves something to be desired—namely a laser printer.

Better and Better

ProWrite's interface looks about the same, with one appreciable alteration: ruler and requester buttons now have the same 3-D look found in Workbench 2.0. This facelift has given ProWrite a much slicker look, especially when compared to its plain-wrapper sibling, QuickWrite.

One noteworthy internal improvement is the addition of what ProWrite calls Program Settings. In the past, any basic changes you made to, say, screen colors, ruler types and date formats were lost once you exited the program. Loading an old document meant you had to make all of these changes again. Now, thanks to Program Settings, you can save these preferences and load them again when you want them. It's still an extra step that I don't think should be necessary, but it definitely beats making all of the alterations manually. Plus you can now create default settings, so that if you want most of your documents to have the same setup, you won't have to do the preferences mamba every time you begin.

Automatic saves and backups are two more useful newcomers. Suppose you've been typing along for an hour or so, and suddenly the thunderstorm outside rears its ugly head and you haven't saved your document lately. By setting ProWrite to auto-save your document every so often, power failure fears can be quelled. Strangely, however, although you can set your automatic save for every few minutes, ProWrite insures that your typing "will not be interrupted" by the function because it waits until more than 15 seconds have elapsed since the last time you touched the keyboard. If you're a quick typist and don't take long pauses, this curious stipulation could be a downfall. Still, the automatic save feature is valuable and a welcome addition.

The automatic backup feature equally so. When enabled, it will prevent any existing version of your current document from being erased by tagging it with a ".old" extension. Should you wish to keep backup copies of

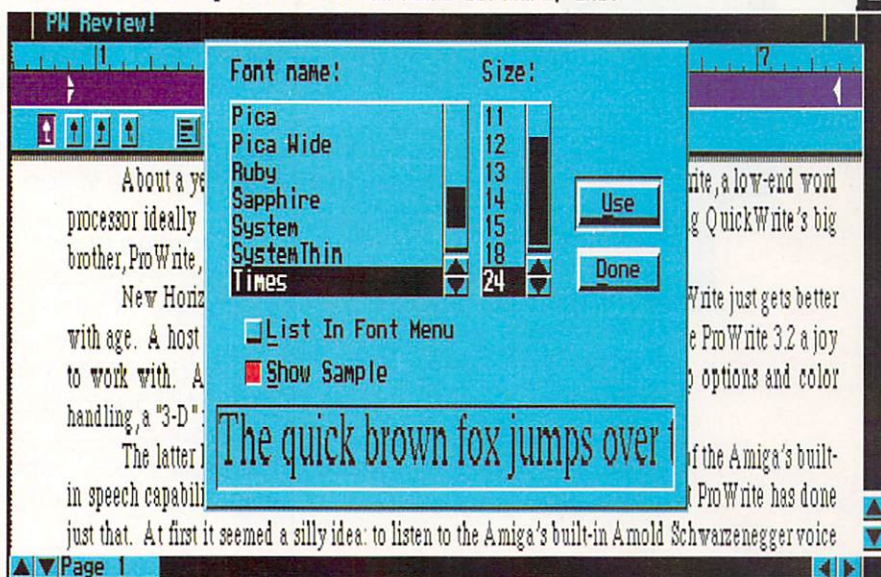
older documents for reference purposes, the automatic backup saves you the hassle of manual renaming.

Look It Up

Like ProWrite's smaller sibling, the main program disk contains a 50,000-word dictionary—small by today's standards. Why the abridgement? So ProWrite, like QuickWrite, can run smoothly from disk drives—a feature those without hard drives should applaud. What about hard drives owners? Cleverly, New Horizons hasn't limited you to a paltry 50,000 words: the "Extras" disk contains a 100,000-word dictionary, which makes a much better choice for hard drive usage.

The thesaurus, possibly the most valuable feature of any word processor, has no such hardware-based options: one size fits all.

ProWrite 3.2.1 - © 1987-91 New Horizons Software, Inc.



Included on the ProWrite Extras disk are four standard PostScript screen fonts: Times, Helvetica, Courier, and Symbol.

While it features an impressive 300,000 cross references, it, like the spell checker, suffers from one minor but debilitating flaw: no hot-key. To engage either lexicon, you must stop your typing, grab the mouse and pull down a menu. Horrors.

New Horizons should know better than this, especially with two such prominent features. The spell checker and thesaurus aren't alone in this negligence: a number of commonly used features lack keyboard shortcuts. Also lacking is ProWrite's macro support. A macro, for those unfamiliar with the term, is a programmable single-key shortcut for frequently typed words, phrases or commands—a very useful word processing feature. ProWrite has macro capabilities, but they are only accessible if you're familiar with (and possess) the ARexx programming language. Why? According to the ProWrite documentation, mac-

ros are exclusively for "advanced" users. Nonsense. ARexx is for advanced users—macros are for all of us.

Cost Effective

ProWrite 3.2 retails for \$175. Those currently using versions 3.0 or 3.1 can upgrade directly through New Horizons for \$25. For version 2.0 or 2.5 users, the upgrade costs \$65. As always, ProWrite is quick, easy to use, easy to set up, and replete with useful features. But a few more days in the shop wouldn't hurt. Easily accessible macros and keyboard shortcuts for features like the spelling checker and thesaurus are necessary if ProWrite is to become my word processor of choice.

Should it be yours? Consider this: ProWrite definitely has the distinction of being the most revised word processor. New Hori-

zons knows it faces stiff competition, but they're trying and will keep trying to make the better product. Whatever comes next, 3.3 or 4.0, keep your eyes open: ProWrite is just a step away from the brass ring.

•AC•

ProWrite 3.2
Price: \$175
New Horizons Software, Inc.
206 Wild Basin Road, Suite 109
Austin, Texas 78746
(512) 328-6650
Inquiry #229

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STYLUS'

ProVector

by Jeff James

When it comes to desktop publishing (DTP), the Amiga has definitely come a long way. Back in the dawn of Amiga DTP, Gold Disk's *Professional Page* was the only choice for Amiga users demanding advanced publishing features such as color separation and PostScript output. Gold Disk's monopoly of that market soon came under fire from powerful challengers produced by Soft-Logik (*PageStream*) and Saxon Industries (*Saxon Publisher*)—such competition has helped spur the Amiga page layout software market on to new heights of power and flexibility. (See Vol.6.5 of *Amazing Computing* for a comparative review of all three Amiga publishing packages.)

A similar situation has long existed in the Amiga structured-drawing software market. While several packages for computer-aided design (CAD) have been available, only Gold Disk's *Professional Draw* offered the features Amiga publishers needed. Indeed, using a conventional CAD package for DTP work—

such as Ditek International's *DynaCADD*—was analogous to using a flame thrower to light cigarettes. Yet just as before, Gold Disk's pioneering effort in a new market has been met with noteworthy opposition. ProVector, from Stylus, Inc., offers up a powerful set of features that makes it compare favorably with *Professional Draw*.

ProVector ships in a sturdy slip case enclosing a hefty, three-ring instruction manual akin to the one found in *WordPerfect* for the Amiga. In addition to the program documentation, a registration card and three program diskettes round out the package contents. Consisting of a program disk, font disk and an extras disk, transferring the ProVector program files to your hard disk is facilitated by a point-and-click hard disk installation routine. Once installed, ProVector and all of its fonts, sample drawings, and other files occupy approximately 1.5MB of hard disk space. ProVector isn't copy protected.

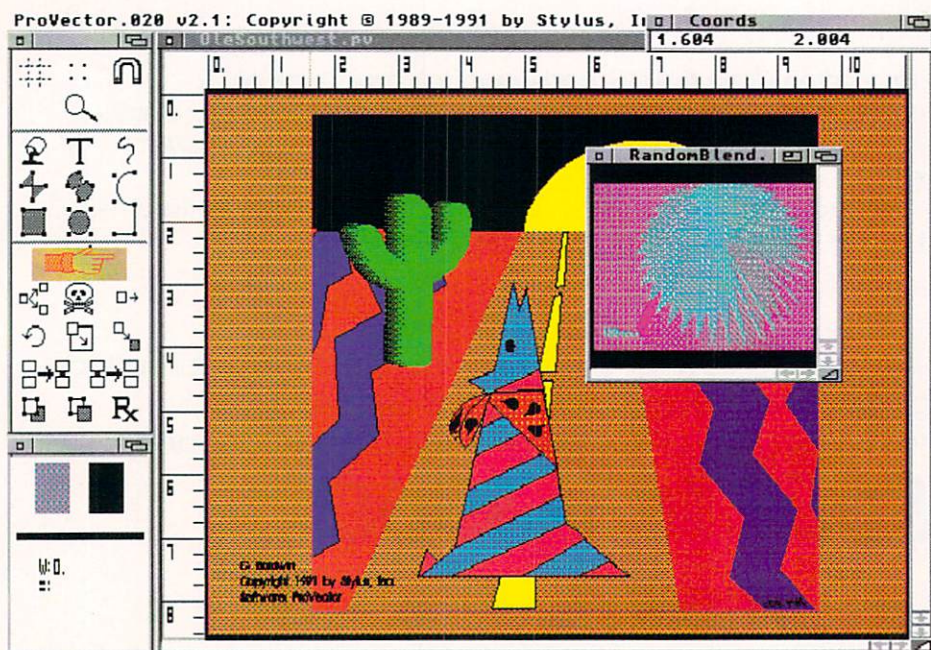
After installation, you have the option of using three separate versions of ProVector. All versions require a minimum of 1MB of RAM and AmigaDOS 1.3. The standard version runs fine on all Amigas; the "ProVector.FFP" variation features more precise mathematical operation (using decimal math instead of the integer model used in the other versions); and "ProVector.020" is optimized for and will operate only on Amigas equipped with 68020, 68030 or 68040 processors. The advantage of having three specialized versions of ProVector becomes readily apparent when you operate the 020' version on an accelerated Amiga. The speed increase is considerable, easily making ProVector one of the fastest drawing programs available for the Amiga. ProVector performed solidly on a variety of hardware configurations running both AmigaDOS 1.3 and 2.04, with and without accelerator boards.

After clicking the appropriate ProVector icon, the display preferences requester appears. This requester allows you to adjust ProVector's display options, such as selecting an interlaced screen, maintaining an open Workbench while the program operates, having it run on a monochrome or color screen, and other variables involving colors and resolution.

Once ProVector has booted, you'll see the drawing tools grouped on a movable "toolbox" on the left side of the screen. Amiga users familiar with *Professional Draw* or with structured drawing packages on other platforms, such as *Adobe Illustrator* for the Macintosh or *CorelDRAW* for the IBM PC, will recognize many of the tools and their uses. Tools for creating bezier curves, freehand lines, smooth and angular polygons, circles, squares and other objects are accessible from the toolbox. Created objects may be left empty or filled with editable fill patterns. Several other tools allow manipulation of created objects, such as tools to delete, clone, scale, move, rotate, group, ungroup and layer objects. Icons to control screen zoom and snap to grid toggle on and off their respective features, with both allowing a substantial degree of customization. Screens can be magnified up to 1200x for precise detailing, while the grid size can be adjusted for fine or coarse grid spacing.

Once you've used ProVector's drawing tools to create your visual masterpiece, you can add a splash of color with selectable dithered color patterns to simulate colors on screen. Chosen from an internal palette of over 16 million colors, color patterns are modified by using either additive (RGB) or subtractive (CMY) color imaging models. Colors can be copied and spread across ranges as well.

ProVector's more advanced features allow the creation of intricate and detailed structured objects. True holes, or "hollow" objects can be created by using "sub-polygons," a



ProVector's more advanced features allow the creation of intricate and detailed structured objects.

variation of the standard polygon tool. The Magnet tool is used to assign "magnetism" to selected object points, allowing points from separate objects to connect perfectly. Useful for combining a group of small objects into a larger one, this tool eliminates the often infuriating task of trying to mesh tiny control points with your jittery mouse. My favorite of ProVector's tools is undoubtedly the "undoable" undo feature. Limited by memory, the undo supports up to a maximum of 255 undo levels, perfect for backtracking several steps to adjust something in your drawing without having to delete everything and start over. Another powerful option, obviously drawn

created object, ProVector's "Text to Path" option allows even more radical changes to a text string. Using the Text to Path option in conjunction with the circle tool creates a circular ring of text, perfect for small logos or stickers.

ProVector ships with nine separate typefaces. Seven of those are what Stylus calls "stroke fonts," or fonts which consist entirely of straight lines. Designed particularly for use with plotters, these typefaces include a variety of serif and sans serif fonts, as well as fonts for the Old English, Greek and Cyrillic alphabets. Of more use to publishers are the fonts PVRoman and PVSans, which are what Stylus terms "outline fonts," or fonts which include

plotters and sign-cutters. Artwork created in ProVector can be saved in standard IFF file format or as an encapsulated postscript file (EPS) for use with other packages. As of this writing, PageStream 2.1 and Saxon Publisher 1.1 are the only Amiga publishing packages which can directly import ProVector IFF-DR2D format drawings.

Possibly the single most powerful feature of ProVector is its robust ARexx support. Used to create time-saving macros, communicate with other programs and to alter the operation of ProVector itself, the ARexx language has been well implemented in ProVector. Nearly three dozen macros are included, including one which blends intermediate shapes and colors between two selected objects, one which performs CAD-like line dimensioning, and another which creates gradient color fills. In terms of communication across software applications, ARexx allows ProVector to be used as a graphic generator by another program. Indeed, I have heard of certain physicists at the Stanford Linear Accelerator who use ProVector to graph out important scientific data, all controlled externally through an AREXX port.

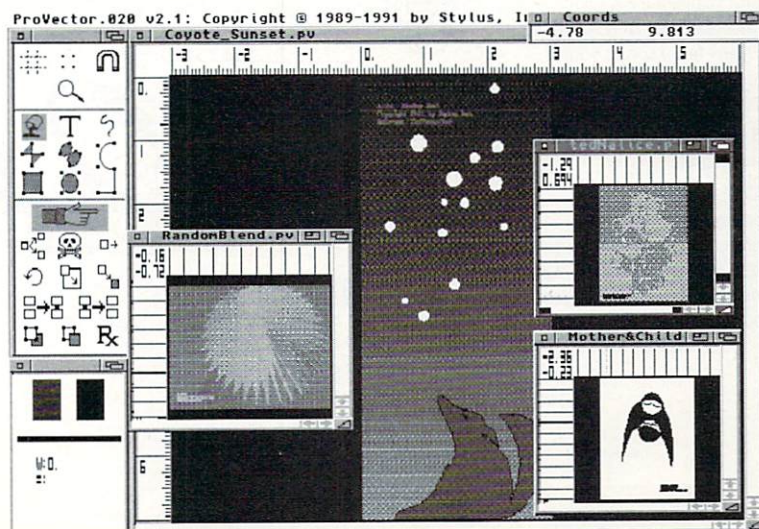
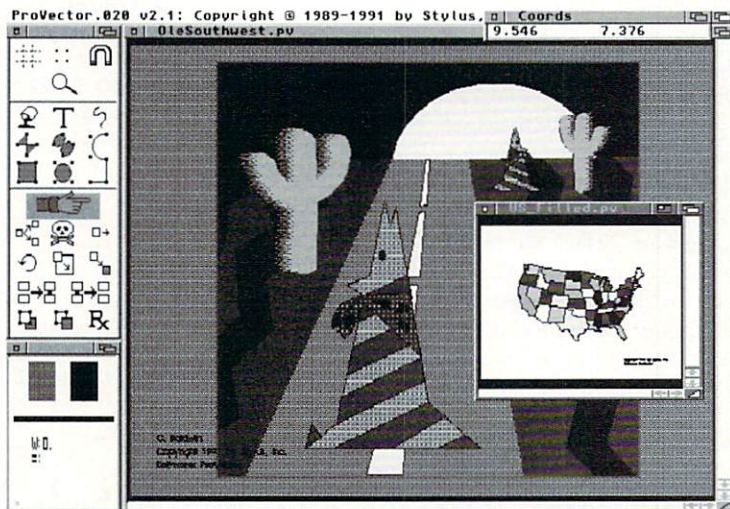
Navigating through all of ProVector's features is facilitated by a point-and-click on-line help system which briefly describes the operation of the tool in question. ProVector's documentation is packed with information, including a glossary, index, an overview/tutorial, and a substantial amount of reference and technical information. An addendum is included which lists the changes made from version 2.0 to 2.1. Although more screenshots and tutorials would have been welcome, ProVector's manual makes learning the ropes fairly straightforward. If the on-line help or program manual can't help you with a problem, telephone technical support is available. The support staff I spoke with were knowledgeable and friendly, able to answer most of my questions about the program.

from the world of conventional CAD software, is ProVector's layers function. Old hat to CAD users, the use of layers adds immensely to ProVector's ability to create complex, multi-layered drawings. Analogous to working with a stack of transparent plastic sheets, this function allows you to hide, lock or edit each of those layers without altering any other part of your drawing. For example, you could use the layers function to create a cut-away view of an automobile, showing the engine and mechanicals through the "skin" (uppermost drawing layers) of the car. In this way, ProVector allows the creation of intricate and overlapping drawings without the fear of deleting or altering previous work.

From the pull-down style menu, ProVector offers several ways to customize objects using fills and fill patterns. The "Object to Fill" command converts objects into structured fill patterns; "Fill to Object" stamps the currently selected fill pattern onto the workspace as a structured object; and most interestingly, the "Text to Object" option turns a text string into a structured object complete with control points. Thereafter, the text may be manipulated and resized, perfect for creating fancy logofoms and special text effects. When entering text in conjunction with a recently

varying line weights and line curves. Stylus also has included "PGStoPVfont," a utility which converts PageStream format outline fonts (not Compugraphic or Adobe) to ProVector's font format.

IFF-ILBM picture files, ranging from monochrome to HAM, can be imported for manual tracing, as can ProVector native IFF-DR2D format files. Files can be output to preferences or PostScript devices, and custom HP-GL drivers are included which allow output to



ProVector offers several ways to customize objects using fills and fill patterns.

ProVector does have some drawbacks. Font support, although improved over the previous versions of ProVector, is still a weak spot. While ProVector's supply of fonts (and those made available by using the included PGStoPVFont conversion utility) are adequate for most publishing projects, support for Compugraphic and Adobe Type 1 fonts is essential when working with predominantly Mac- and IBM-based service bureaus. I'm certain that most Amiga-using publishers would agree that support for those formats, especially for Adobe type 1 and 3 fonts, is long overdue.

ProVector's supported input and output options, though adequate, seem a little on the weak side. One can argue that many Amiga publishers rely heavily upon ASDG's excellent *Art Department Professional* (ADPro) program to resolve the confusing jumble of file and image formats between platforms. Without diminishing ADPro's essential place with regards to conversion of graphic formats, I still believe that inherent support for TIFF, EPS, and Macintosh format files such as PICT, PICT II, and native *Aldus Freehand* and Adobe *Illustrator* files would make ProVector much more usable to all Amiga publishers. (Stylus has announced the development of a module that will

allow importing of virtually any structured EPS file from Amiga, MAC and MS-DOS formats. The add-on module will be sold separately and will be available soon.—Ed.)

Another curious omission is an autotrace utility to convert bitmapped artwork (such as standard IFF-ILBM bitmaps) to structured format. ProVector's excellent drawing tools do make tracing simple images fairly easy, but large and/or complicated images are simply too time consuming to trace manually. I would like to see support for the Pantone Color Matching system (a boon for accurate color publishing) in a future version of ProVector, as well as the ability to import 24-bit IFF files for tracing. ProVector would also benefit from being able to perform spot and process color separations from within the program.

In its current incarnation, ProVector is an impressive piece of work. Its speed, advanced feature set and other aspects undoubtedly make it the Amiga-using publisher's choice for structured drawing. Although it falls short when stacked up against the feature-laden drawing heavyweights in the Macintosh and PC arenas (most notably CorelDRAW and *Micrografx Designer* on the PC and Adobe *Illustrator* and *Aldus Freehand* on the Macintosh), it's the closest thing yet for Amiga users who

need a good structured drawing program. Stylus had better keep on their toes, however, as ProVector's competitors aren't standing still. Soft-Logik's forthcoming *Art Expression* program is just around the corner, and rumor has it that Gold Disk is burning the midnight oil to update *Professional Draw*. All of this competitive jostling will be of benefit to Amiga publishers everywhere, as more powerful, easy-to-use and full-featured products will help push the Amiga closer and closer to the leading edge in DTP technology.

•AC•

ProVector 2.1
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Stylus Inc.
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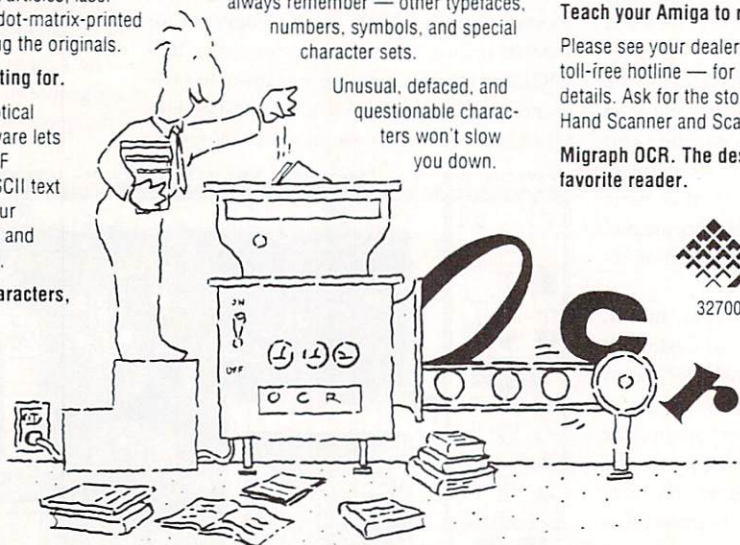
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Circle 101 on Reader Service card.

Speed is a valuable commodity. The more you have, the more you want! However, some of us don't even know we need it until we see it! It's the old story of being satisfied with what we have until we see someone who has something better. The 2286 BridgeBoard has been an adequate product to emulate IBM computers on Amiga 2000s and 3000s. However, the biggest problems have been speed from the aspect of processing power, compatibility—the ability to run windows with mouse control or serial port capabilities—and expandability. With the limited XT or AT slots in the Amiga 2000 or 3000, you must put as much as you can in the available space. Well, ATOP has addressed all of these issues with their 2286 BridgeBoard Extender products. These ATOP products perform all of the above, giving your old AT2286 BridgeBoard new zip and a new lease on life.

The ATOP Extenders are really two different products that complement each other perfectly. The first ATOP product is a direct plug-in replacement for the 80286 microprocessor that is standard on every AT BridgeBoard. You replace this 8 MHz microprocessor with a 20 MHz 80386SX microprocessor. The other product is an all-purpose IBM AT multi-function card and memory card which gives you a three-card solution for IBM compatibility. These products can be used separately or combined to provide the 2286 BridgeBoard with new functionality and compatibility.

The 80386SX Extender

These parts consist of a chip puller, socket extenders for the for the bridgeboard daughterboard and the 20 MHz 80386SX microprocessor. All of these parts constitute the ATOP BridgeBoard Extender. While this may not seem like much, the increase to the performance of your BridgeBoard is nothing short of a miracle.

The manual for the ATOP BridgeBoard Extender is approximately 10 pages with a three-page supplemental. Within this short manual you are succinctly provided with all of the necessary information for the installation and operation of the product.

Installation

Installation of the BridgeBoard Extender is done in a step-by-step approach. If you follow the manual closely, you should encounter no problems whatsoever. The first step is to remove the daughterboard from the BridgeBoard. This daughterboard can be seen as it is installed on the BridgeBoard. Carefully, very carefully, separate the daughterboard from the main board. This can be done by pulling apart the boards a little from each side at a time. Do not attempt to pull one side

completely free and then work on the others. Instead, try to work each side equally.

Once you have separated the boards you will see the main board. This is the board which contains the 80286 microprocessor. If you look closely, you can see the 80286 microprocessor. At this point, pay very close attention to the microprocessor orientation. When you replace this microprocessor with the 80386SX, the orientation must be correct. Look very closely—you will see a notch in the upper left corner of the chip. This notch designates pin 1 of the microprocessor. You must remember this is extremely important because you must insert the replacement microprocessor with pin 1 with the same orientation.

Once you have noted the microprocessor orientation, it is time to pull the 80286 microprocessor from the board. This is done with the special chip puller that is included with the ATOP Extender. You must carefully insert the

puller into the corners of the microprocessor as shown and while squeezing, gently pull upwards. With this type of motion, you should be able to gently remove your original 80286 microprocessor from the BridgeBoard.

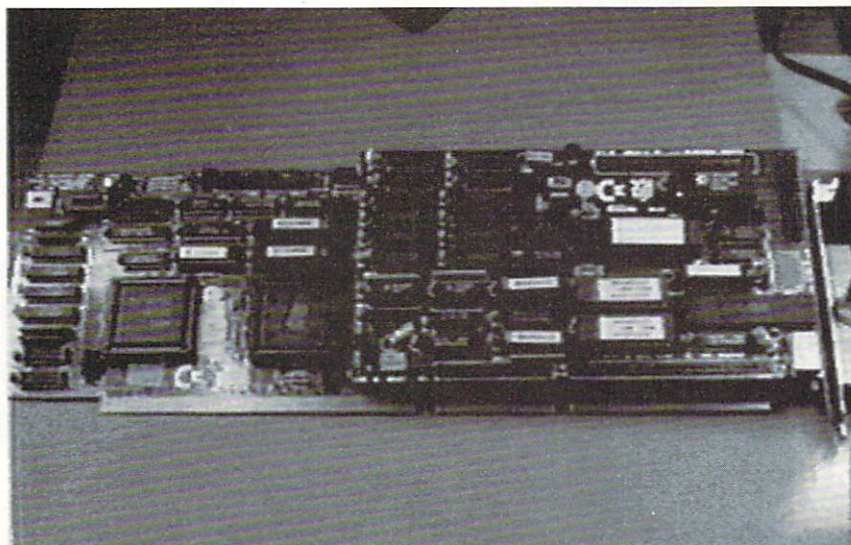
Now it is time to insert the 80386SX replacement microprocessor into the main board. You must locate pin 1 of the 80386SX microprocessor and orient it to pin 1 of the socket from which the 80286 has just been removed. When this has been done, you can carefully insert the ATOP 80386SX. This is done by exerting a steady pressure on top of the 80386SX until it is firmly seated in the socket. You will notice that pin 1 for this replacement chip is now in the upper left corner. This is different from the 80286; however, it is the correct orientation for the 80386SX.

It is time to put the BridgeBoard back together. Since the replacement microprocessor is considerably higher than its original

ATOP'S

2286 BridgeBoard Extender

by Richard Mataka



Give your old AT2286 Bridgeboard zip with ATOP's extender.

counterpart, you need to install sandwich board elevators so the daughterboard can be reinstalled.

Carefully reinsert the daughterboard onto the main board. Be very careful that all of the pins are properly aligned. The main board should be placed on a flat surface. Exerting a firm, but steady pressure, push down on the daughterboard until the daughter card has been reinstalled onto the main board.

Operation and Performance of the BridgeBoard Extender

The operation of the 80386SX BridgeBoard Extender is transparent. You do not need to change any of the software from its original configuration. Whatever worked with the original 80286 will also operate with the 80386SX, but much faster. Operationally, it appears as though you have made no changes whatsoever.

However, the real change is in the performance of your BridgeBoard system. Most of these performance tests are IBM Public Domain performance comparison tests. However, the Norton SI rating test is where the real system performance measurements are examined. The Norton SI ratings are used throughout the industry as a standard measurement of system performance. In compar-

With the limited AT or XT slots in the Amiga, you must put as much as you can in the available space.

ing the Computing Index of the standard AT BridgeBoard to an IBM XT, you can see that it's rated at a 7.7. When the same test is performed with the ATOP 80386SX BridgeBoard Extender installed, the Computing Index jumps to a whopping 20.7. The performance of the AT BridgeBoard system is dramatically improved with the ATOP 80386SX Bridgeboard Enhancer product.

However, we have not even looked at the additional boards that will complete our Amiga power system. These boards, the Bridgeboard AnyRAM and the Bridgeboard Multifunction card, will be examined next month. We will look at what these cards can do to enhance your Bridgeboard system and make it the envy of any IBM user.

•AC•

80386 20MHz BridgeBoard Expander

Price: \$449.00

ATOP

11914 Girdled Rd.
Painesville, OH 44077
(216) 354-0075
Inquiry #238

Please Write to:

Rick Mataka
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

CORRECTION

Three small errors were made in *And Furthermore* in the February, 1992 issue of *Amazing Computing*. The article stated that Commodore had sent three Amigas to Bridgewater State College when in fact they only sent two. Derek Marconi's picture, "Super Derek", was featured on the Cover of the Boston Computer Society's BCS Update, not Michael DuCott, as stated in the article. Also, Burnell School student Adam Bozza was identified incorrectly in the caption beside his photo.

Burnell Laboratory
School teacher
Rich Gopen
instructs student
Adam Bozza.

Adam is working
on an Amiga 2500
which is packing a
Video Toaster.

All Burnell Laboratory
School photographs by
Alyssa Lynch.



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Graphical User Interface

After a script has been created using the RayDance programming language, several settings and rendering options are available via the graphical user interface. An extensive help option allows getting information on just about any aspect of the interface. Once a particular script is loaded in, several settings can be adjusted before rendering. Anti-alias can be toggled on and off, and also can include a depth value. The higher the value the slower the render though. Wireframe/Ray Trace/Phong shading allow different tracing results. Shadows can be added as well as Haze. Reflect parameters can be changed telling the program how many times a ray can bounce off reflective surfaces. This is a great feature and must be measured against rendering times. In other 3-D Amiga programs, it is either not available or not as easy to change. Rendered images can be saved to RAM or to just about any path, such as to a hard drive. No direct rendering methods to hi-color boards are currently supported; however, there are built in standard resolutions for Impulse's Firecracker board in the resolution presets menu. There is a progress bar that uses a horizontal graph to show the percentage that the current frame has rendered so far. A set-up file lets the user configure numerous parameters such as picture path, image size, alias depth, and about 25 others. This set-up file is checked when the program is first run.

Conclusions

One feature I really like is the way numerical input is handled. If you click in the graphical interface on a text input icon, a small screen comes up that looks like a calculator, allowing the input of numbers without using the keyboard. It's a small feature, but one that should be spread to other 3-D programs. The program comes with a ton of tutorial scripts that can be examined, altered, and rendered. This is, however, no substitute for real manual tutorials, which this package sorely lacks. It is presented more as a reference manual than a user's guide. This makes it very hard for novice 3-D users. This is not one of the speediest 3-D programs I have used, but part of the reason may be the numerous options such as reflective depth, shadows, texture mapping, anti-aliasing, and other calculation-intensive operations. The gradient spreads, fractal trees, terrain, haze, and object replicating are excellent features not found in all 3-D programs. Picture quality is excellent, accurate, and on-par with the current crop.

I can't help wondering what market RayDance is aiming for. Beginners to 3-D may be attracted by the low price but are in for a surprise. Seasoned pros probably have Imagine, Lightwave, or some of the other popular 3-D Amiga programs and will want to add RayDance to their "stable." But RayDance (version 1.0) is just getting out of the gates and the other programs can probably out-perform it with little effort. Is it for budget-conscious Amiga users, perhaps those with a 500? RayDance is inexpensive, but the accelerator and rows of memory to make the best use out of it certainly are not. I can only assume RayDance is for the programmer type. If you love to tinker around, de-bug, change vari-

ables, and have complete control over the entire 3-D universe via a powerful script-based language, then your 3-D program has arrived!

•AC•

RayDance
Price: \$99.95
Radiance Software
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Foundation

by Dave Spittler

The first announcements about the new authoring system, *Foundation*, sounded interesting. This was not intended to be a me-too program but a software construction kit which offered a fresh and exciting approach to its subject. It was also supposed to be an Amiga version of the popular Macintosh product "HyperCard." When I received my copy of *Foundation*, I quickly installed it on my hard drive, eager to be overwhelmed by the program. That first experience left me more frustrated than overwhelmed. Even after several weeks of experimenting with *Foundation*, I had absolutely no idea of what I thought of the program. I was not even sure that I fully understood what it was intended to be. I eventually discovered that while I was fiddling around with *Foundation*'s mechanics, I had allowed most of its real power and attractiveness to completely elude me. Make no mistake, this is an incredible program packed with hidden powers of such magnitude and subtlety that,

once you begin to understand what it is, you will probably spend a lot of time saying "Wow!" Unfortunately, a lot of potential fans might never have that first "Oh, Wow!" experience.

In all honesty, the roots of this problem are not entirely the fault of the program or its documentation. The program comes complete with a set of demonstration stacks, a "tour" stack, and a tutorial stack. The demo stacks are actually quite good, but neither the documentation nor the tutorials gave me any clue as to how good they are. The "tour" stack and the tutorial stack appear to have been hastily done and are not as helpful as they could be. The manual was really no help, either, but it did have a couple of clues in the introduction which I did not pick up at all. Eventually, I reread the introduction and reread the references to HyperCard, which is the authoring system on the Macintosh. At last, I began to investigate HyperCard and make gross comparisons between that product and Founda-

tion. Soon, the scales began to fall from my eyes. The problem was that, as an Amiga user with very limited Mac experience, I had heard of HyperCard, but did not understand that it is the watershed of authoring systems and is still the standard by which other programs should be judged.

This is *not* to say that *Foundation* is HyperCard. *Foundation* does not do all of the same things and it does not really share the same "look and feel." In addition to possessing a lot of the functionality of HyperCard, *Foundation* also offers a lot of the power and flexibility which have endeared HyperCard to its fans over the years. Because of the natural multitasking ability of the Amiga, it can actually be more powerful in some very interesting ways.

As exciting as that piece of information may be, it is important to note that the *Foundation* which shipped in the initial release has a significant shortcoming in the area of documentation. The program actually comes with two sets of documentation and both are exhaustive, but I would have been a lot happier if one or both of them had spent more time making me comfortable before both sets delved into the depths of the program.

The best of the two sets of documents is found in two online programs, the Encyclopedia and Hyperview. The Encyclopedia is a very complete command index. Its companion, Hyperview, is an interesting and useful online help stack. Since both of these programs are *Foundations* stacks and since both possess Hypertext features, they can be kept up and running while you are creating your own *Foundation* stacks to help with command structure and syntax examples.

Foundation comes with a large and very serious manual jammed with information. Most of the space in the manual is given over to the same details of the command structure which are covered so well in the online Encyclopedia. Beyond the briefest of introductions and a couple of pages of tutorial material, which could be a lot better, there is little or no help for the new programmer here and this was part of my problem from the very beginning. When you have finished the tutorial, you are virtually on your own.

Foundation may actually be the closest thing we will ever see to software construction kits for other platforms. Everything about the design and execution of *Foundation* points toward HyperCard. A little deeper in the program, you will discover the conventions which gave HyperCard its power including background and foreground cards, objects, and extensive script control of everything. The scripting language, called "FastTalk," tries to be as easy and intuitive as the HyperTalk commands it emulates. Anyone who understands



The main interface screen for *Foundation*.

HyperCard should be able to dive into the Foundation manual, dig out whatever they need and go to work.

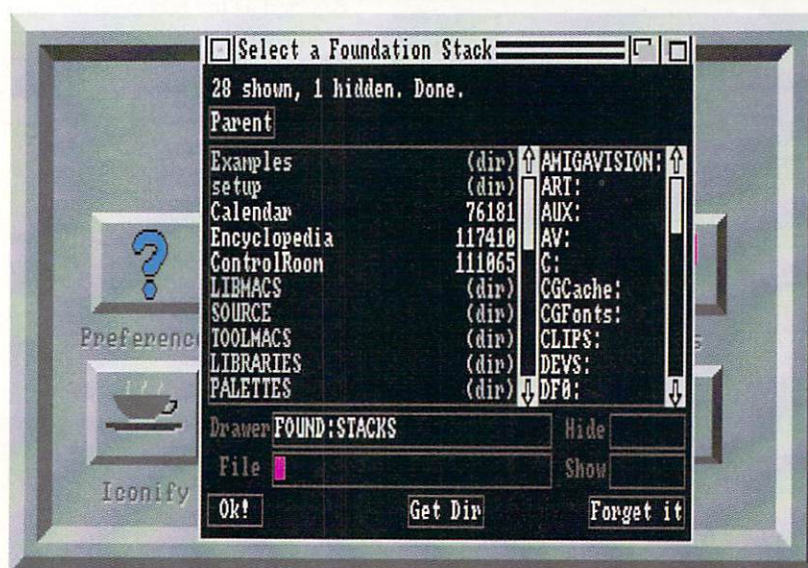
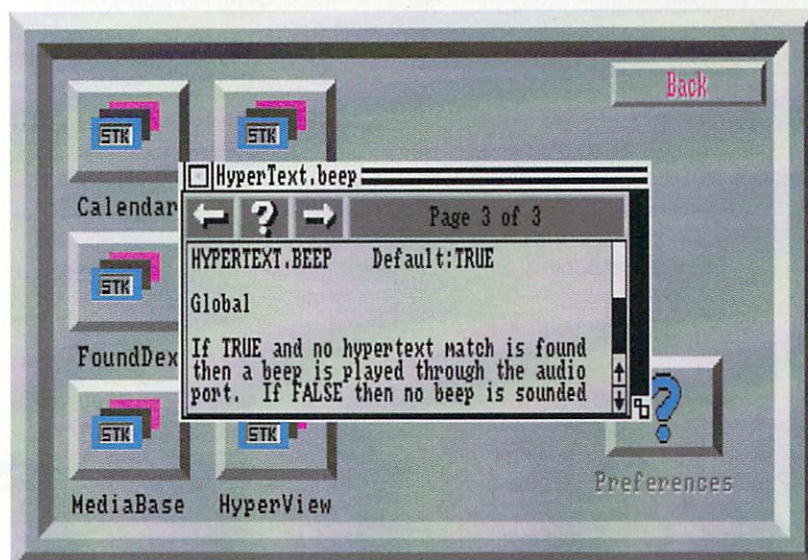
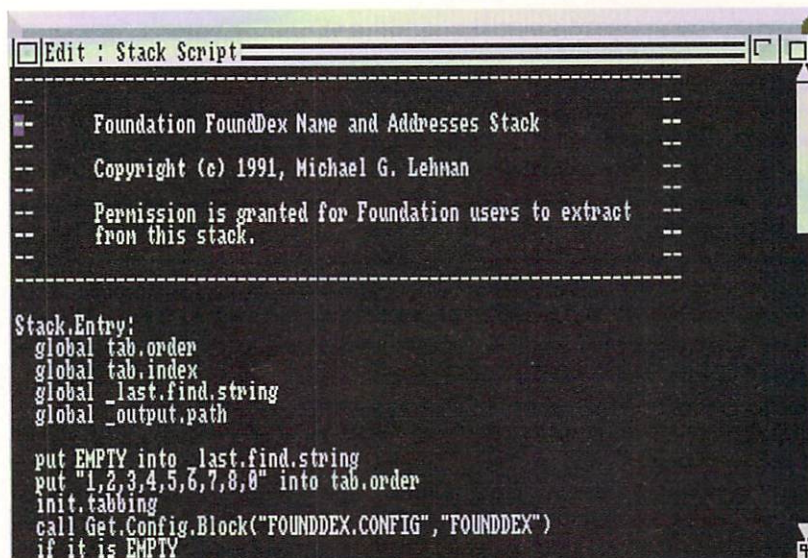
But what about the rest of us who have never used HyperCard and, being Amiga buffs, probably never will? The good news is that HyperCard is supported by an impressive library of third party literature. If you have one or more of these books, you can read about HyperCard and begin using Foundation right away. I went right to the bible of HyperCard users, Danny Goodman's *The Complete HyperCard 2.0 Handbook* and found a source book which begins at the very beginning and covers everything so well that I was able to understand all of the principles without ever going near a Mac.

In the course of studying Danny Goodman's manual, I realized that the authors of Foundation are attempting to fill in some large gaps in the authoring system field on the Amiga. This is not to find fault with the way that other programs go about empowering the Amiga user, but when you look at them closely, none can claim to be The HyperCard of the Amiga. Foundation comes closer than any other authoring systems to being able to make this claim.

Organizationally, this begins with the concept of "layering." In Foundation, all of the stacks and all of the frames (cards) which make up those stacks are built up in layers and these layers have priority settings according to a precise set of rules. All stacks and all of the frames in each stack have a "background" which contains information which does not change. Each of the cards can refer to this "background" information or ignore it as required. This means that, even after the stack is complete, global changes can be made by simply changing the background and these changes have the potential to change the stack and every card it contains. Foundation also gives users a lot of power and flexibility by allowing everything to function under script control. Everything in a stack can have a script attached to it and all of the scripts can be accessed through a script editor from the menu screen.

Foundation contains a very workable Hypertext scheme, allowing programmers to quickly and easily build text programs containing keywords which can be used as doorways to distant but related parts of the overall document. The HyperView (help) stack is an excellent example of this and can be used as a template for creating other stacks.

Foundation users are also able to build multiple stacks and link them together through scripting and this feature is actually more powerful than its counterpart in HyperCard due to the Amiga's native ability to multitask. Not only can you link stacks to each other, but



From Top to Bottom: The Foundation script editor. HyperView, an on-line help program which uses Hypertext. Foundation's stack requester.

you can have all of the stacks you need running on your Amiga at the same time and flip from one to the other by way of the F8 key.

Lastly, developers who are interested in creating programs to be pressed onto CD's and run on CDTV will be gratified to know that Foundation contains "hooks" to make this not only possible, but easy.

There are several immediate advantages to using an authoring system which tries to follow the conventions laid down by a program such as HyperCard. In the first place, there is that mound of third party literature. If you are learning to use any of the other Amiga authoring systems, you are forced to re-invent the wheel. If you are learning Foundation, you have access to the entire library of manuals and how-to books from other similar programs on other platforms. In addition, you can create programs with Foundation which will be immediately familiar to HyperCard users. This also means that needed HyperCard stacks can now be ported over to the Amiga without having to be rewritten from the ground up while your killer Foundation stacks can be made available to users of the Macintosh and the IBM PC as well. Note that I am not saying that there is some sort of magic filter here which can turn a HyperCard stack into a Foun-

dation stack and vice versa. As things stand now, you would have to "port" a stack from one platform to another manually but this process would be relatively painless because the conventions and the scripting are so similar. I also suspect that it would be possible to write a stack which would be capable of turning HyperCard stacks into Foundation stacks and vice versa.

Foundation makes up for some of the functional shortcomings in its first release by offering two ways for the user to expand the program. ARexx programmers can do a lot to reach into areas which Foundation does not now touch by writing ARexx scripts and accessing them through their Foundation stacks. Foundation has a good ARexx port which boasts both synchronous and asynchronous capabilities (meaning that you can run your ARexx programs as part of your Foundation stack or in the background). In addition, C programmers can expand Foundation by creating "XCode Modules." XCode modules are independent programs which can be called from a Foundation stack and become, in effect, a part of Foundation. Functions which Foundation needs, such as the ability to use Anim Brushes or the ability to play music files, could be filled in by means of XCode modules.

Foundation is a very worthwhile addition to any programmer's collection. It works well as a stand-alone authoring system while offering an entry into territory which was previously the exclusive domain of HyperCard and Toolbook programmers. Shortcomings in the current documentation can be made up at least in part by making use of the extensive library of third party documentation which already exists for other authoring programs. The scripting language, "FastTalk," is both easy to learn and powerful, and the hypertext features have been badly needed in an Amiga authoring system. Foundation is a well designed and thoughtfully crafted system that the Amiga community has needed for a long time.

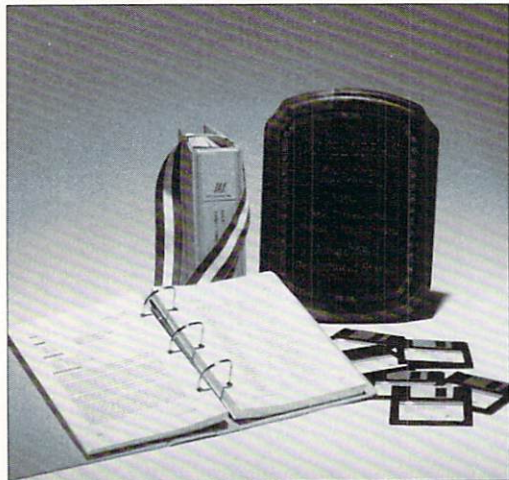
•AC•

Foundation
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A Quick Project

Building a Multi-Sync Monitor Adapter

by John Iovine

Multi-Sync Monitor Adapter

This month we'll look at a simple interfacing project created to solve a couple of little computer problems of my own.

The first project involves the computer monitor. I had been using Commodore's 1084 monitor connected to both my Amiga computer and a IBM compatible. This situation worked out fine since the 1084 monitor had a RGB input for the second computer. However when I wanted to enhance the IBM compatible's graphic capability, the video signal wouldn't sync in to the 1084 monitor properly. A scrambled screen would appear for all modes greater than CGA, i.e., EGA, VGA and SVGA. The solution to the graphics problem is to use a higher resolution monitor, such as a multi-sync monitor.

Space in my computer hovel is a primary consideration for any new equipment. Although it would be nice to keep each monitor connected to its respective computer, it is neater and more practical for me to use just one, namely the multi-sync.

The simple solution to connect the Amiga to this monitor was to call a few stores that stock the Amiga computer for the appropriate cable. In calling a few Amiga dealers in my area, I found that they didn't stock the cable, nor did they want to be bothered ordering it for me. Next I called a few national distributors; the ones that could supply the proper cable wanted \$40 plus postage and handling. That seemed a little too expensive for a simple cable, so I decided to try to make an adapter myself. Surprisingly, I found that connecting an Amiga to a multi-sync monitor to be quite easy.

At the back of the Amiga there is a male DB23-pin RGB monitor connector. We need just five lines off this connector to a DB9-pin

connector to successfully connect a Multi-Sync monitor. Rather than run six feet of wire between these two DB connectors, it is easier to make an adapter. An adapter is pretty much the same thing as a cable, instead using only an inch or so length of wire between the two DB connectors. With the adapter connected to the Amiga, we then can use a standard DB9-pin cable between the adapter and monitor. The DB9-pin cables are typically used for extending joysticks so they are readily available from Radio Shack and other sources.

Figure 1 shows the schematic drawing for the adapter. And the following table shows the pin functions from the Amiga 23-pin DB connector.

Amiga DB23 M pin #	Function	Connected to DB9 M/F pin #
3	Analog Red	1
4	Analog Green	2
5	Analog Blue	3
10	Composite Sync	4
20	Ground	5-9

The Amiga has a DB23 male connector at the back and requires a DB23 female connector. The DB9 connector can be either male or female, depending on the gender of the connector on your monitor or of the cable connecting the adapter to the monitor.

On either the front or back of the multi-sync monitor you'll have a switch that switches the monitor's function from digital to analog. Set this switch to analog when using the Amiga.

To finish off the project, I purchased a DB9 data switch box that

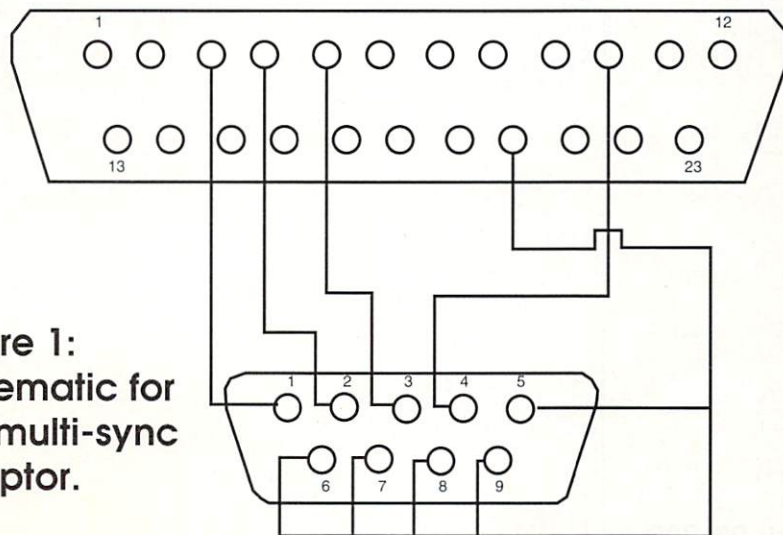
avoided the need to physically switch cables back and forth on the monitor. This adapter should work for the Amiga 500, 2000, and 3000 computers.

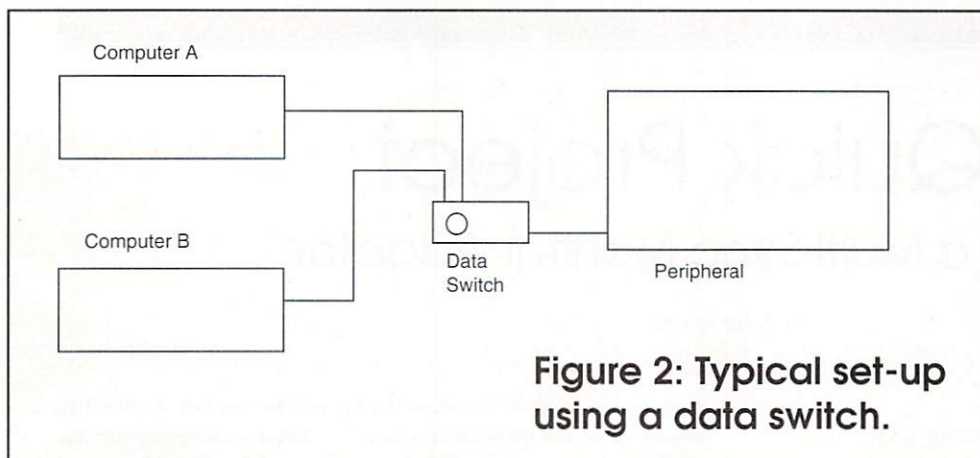
A Little on Data Switches

Data transfer switches are simple devices, but very useful. At the back of a typical data switch, there are three connectors labeled A, B, and Input/Output. Figure 2 illustrates a typical setup, two computers sharing one device. The switch is used to connect either computer to the device.

The reverse situation can also be true, where you have two devices connected to one computer. The Amiga computer uses two DB25 connectors, one for the RS-232 port and the other for the Parallel Port. This type of switch

Figure 1:
Schematic for
the multi-sync
adapter.





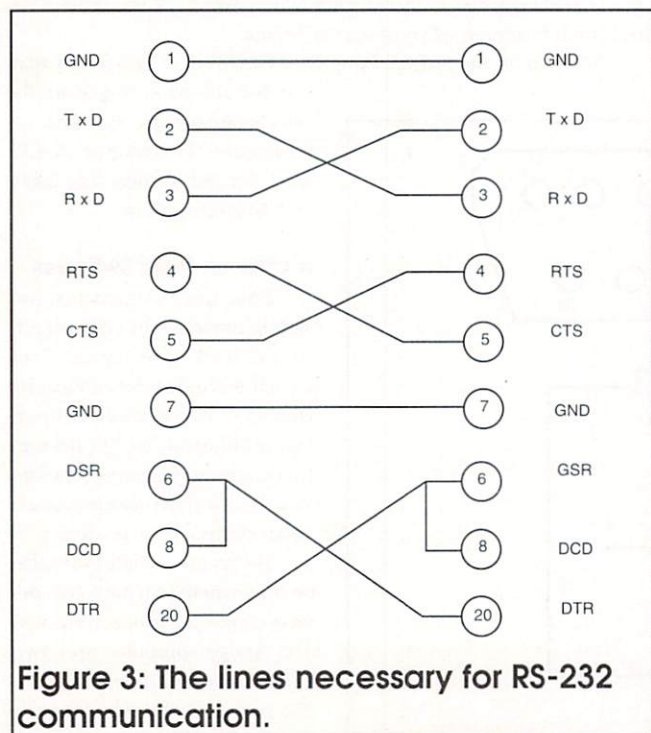
can be very useful. For instance, if you wanted to keep both a digitizer and printer connected to the parallel port, you could use one data transfer switch instead of pulling cables and reconnecting devices.

For the monitor project, I used a DB9 data transfer switch. It operates like the DB25, but uses DB9-pin connectors at the back. The set-up is illustrated in Figure 2, where the device is the multi-sync monitor.

Null Modem

Null modems are useful for transferring files between any two computers that have an RS-232 port. The Null Modem is a simple device. Figure 3 shows the nine lines necessary for RS-232 communication on a DB25 connector RS-232 port. Null modems are inexpensive so there's no incentive to build rather than buy.

I started using a null modem because I have a 1200-baud modem connected to my Amiga and a 2400-baud modem connected to my IBM compatible. When I'm connected to a BBS service such as CompuServe, it is more economical to run at the higher baud rate. CompuServe online time rate for 1200 baud and 2400 baud is the same, \$12.50/hour. If I'm downloading files, I can reduce my online time by 50 percent, operating at 2400 baud as compared to 1200 baud. This amounts to saving a considerable sum of money over the course of a month or so, depending on usage.



Well now that I've downloaded a number of Amiga-specific programs onto my IBM, it's time to get them into the Amiga. This is where the null modem comes in.

Using a null modem is very simple. You connect the two computers through their RS-232 ports with a RS-232 Cable and a null modem adapter. Load up telecommunication software on both computers and set the telecommunication parameters equal on each computer. I use 8-bit data length, 1 stop bit, even parity.

Have you noticed that we are not using modems on either computer? Well we can use that fact to our advantage. Run the communication software at the highest speed that's compatible with both computers. If both computers can run at 9600 baud (or greater), run it at this speed.

There's no reason to use lower speeds; remember there is no modem between the computers to slow you down. The null modem and cable can handle data rates as fast as your software is capable of.

This procedure is useful to anyone wishing to transfer files (programs and/or text) between any two computers.

To finish off this project, use a DB25 data transfer switch between the null modem and external serial port. This allows you to transfer files through the null modem or use the serial port for another peripheral device on the Amiga if you choose.

Let me add that some computers use a DB9-pin connector for an RS-232 port instead of a DB25 connector. If you look again at Figure 3, you can see that the null modem requires only nine lines. Some manufacturers use the DB9-pin connect instead of the usual DB25 connector to save money on manufacturing cost. There are null-modem adapters that have a DB-9 pin connector on one end and a DB25-pin connector on the other. So if you have a computer (IBM AT, Mac, etc.) that uses a DB9 connector for its RS-232 port, you can still transfer files as described.

•AC•

Parts List Multi-Sync Adapter and Null Modem

DB23 female connector	\$4.50
DB9 male or female connector	\$2.00

Description	Connections	Each
Null Modem Adapter	DB25 male/male	\$4.95
Null Modem Adapter	DB25 male/female	\$4.95
Null Modem Adapter	DB25 female/female	\$4.95
DB9 Data Transfer Switch		\$12.50
DB25 Data Transfer Switch		\$12.50
DB9 Cable m/f 6 ft		\$ 5.50
DB25 Cable m/f 6 ft		\$ 8.00

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Programs That Work

Section 2: Data Base-ics

by Dave Spittler

Last month, we talked about ways to construct a simple quiz or trivia type game. We talked about the menus and the simple looping logic which are essential for a program of this type. Now, we will discuss some ways to expand our program and make it interact with a data base.

Data bases are neither as mystical nor as difficult as they may seem to the uninitiated. At its simplest level, a data base is nothing more than an electronic card file. In data base technology, all of the information on one of those index cards is a record and one separate piece of information is a field. Because it is electronic, however, it is easier to look up information in a data base than it was in your old card file. The program "Math Drills" asked questions and collected answers without a data base. We forced the computer to think up simple addition problems based on the formula " $x+y=z$ " by telling it to insert a random number for the x and y variables. We then got the correct answer with the statement " $z=x+y$ ". We used variable "a" to collect the user answer (response=a) and kept score by using an "IF" statement (IF a=z) to cause the variable "score" to be incremented (score=score+1).

What we really wanted to do was create a program more along the lines of "Star Trek Trivia," which could ask a mixture of true/false and multiple choice questions, understand the difference between a correct answer and an incorrect one, and keep score. Additional features would include multi-level play and the ability to save games in progress.

This program will require a data base of questions and answers. *AmigaVision* and *CanDo* offer you ways to construct data bases within the program. If you use *Director*, *Foundation*, or *HyperBook*, you will have to create a data base as a file outside of the program and refer to it in your script.

Before we can load data into our data base, it would be good to make some decisions about its organization. This is especially important with *AmigaVision* because the structure of an *AmigaVision* data base cannot be altered without the loss of all of the information that was entered before the change. Begin by dividing your program into steps that you can list. This list can be very helpful in telling you what fields to include in your data base.

For the current project, we are trying to mimic the functions of "Star Trek Trivia," so

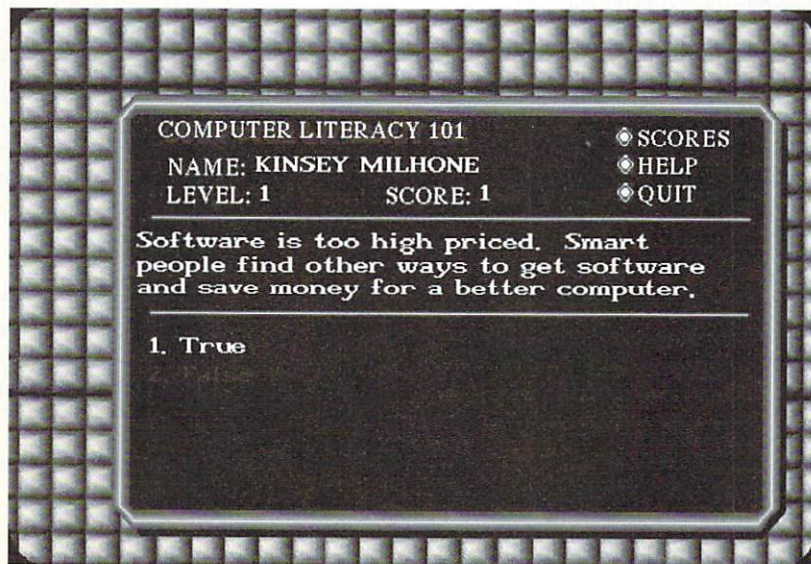
here's a list of things which that program does:

1. Know who is playing
2. Keep score
3. Place questions on screen
 - a. multiple choice
 - b. true/false
4. Record Selection
5. Post a comment on the screen for correct and incorrect response
6. Levels of difficulty
7. Organize questions into categories
8. Offer entirely different sets of questions
9. Multi-level play
10. Scramble the order of questions
11. Scramble the order of answers to multiple choice questions

Based on this list, we will need fields for Question Number, Level Number, Category, Question, Answers 1-4, and a field which indicates which answer is the correct one. We will also want to add two fields for comments after the question has been answered and fix things so that we can have true/false questions as well as multiple choice ones. I added two fields, "Comment1" and "Comment2" to hold responses for both correct and incorrect answers and a field called "TF" which contains a 1 for true/false questions and a 2 for multiple choice.

The next decision involves the length of each field. The Number, Line, and Category fields will be two or three characters long, but we would expect the question, answer, and comment fields to be longer. I used the following values: 120 characters per question, 40 characters per answer, and 80 characters per comment. Since the longest line of text I could fit into a screen was 40 characters long, I used three 40-character fields for the question and two 40-character fields for each comment.

After you have made all of the basic decisions about your data base, it is time to start building. Build the basic data base structure, place a few bogus records in it for test purposes, and then create a program to test it and make sure you have all of the fields you need



This screen contains all the basic functions that we want to implement in our project.

and that your concept works. Once you have everything working, you can get serious about building up a real data base for your project.

As you are constructing your test program, refer once again to your specification list. Initially, you want to create a simple program to read the data base and interact with it. Once that works, you can begin to add other features. Begin the program with a series of variable statements. AmigaVision uses a "select record" icon to pick a record and then uses a "read/write" icon to read the field contents into pre-defined variables. These variables can then be manipulated within the program.

tions in your data base which relate to the specified level and, since you have placed a loop icon directly in front of the "select record" icon and made the rest of the icons in the question loop the children of the "select record" icon, your program will keep looping back to ask all of the questions for that level until something happens to make it stop.

A "Read/Write Record" icon is now used to get the information out of the data base, and this information is quickly read into variables which you have already established. Now, use a "waitmouse" icon to

icon would be used to enter all data including the password and all information is passed to the data base by means of a "select record" icon linked to a "read/write" icon.

Once we have established a field (TF) and linked it to a variable, we can tell the program whether to expect a true/false or multiple question. Use a single "IF-THEN" icon to branch the program. If "TF" equals 1, the question will be true/false; multiple choice if the value is 2.

Random numbers may be used to vary the order in which questions are asked, but include a filter which excludes the questions

SORRY. SAVE FEATURE HAS NOT BEEN IMPLEMENTED YET.

Let us assume that you have set up the data base with the fields which we have discussed. Let us also assume that you have set the "keys" up to focus on the fields "QuestionNumber" and "Level". (The keys are the device by which the data base sorts records and accesses the ones you want.) You can now begin the program by creating variables for "Number," "Level," question lines 1-3 (Q1, Q2, & Q3), answer lines 1-4 (ans1, ans2, ans3, ans4), the comment lines, and, of course, "Cor" (Correct) and "TF" (True/False). Use the format "name1=" to establish all of these variables. The icon which sets up your variables will be followed immediately by a loop icon followed by a graphic screen.

Now, introduce your "select record" icon to access the correct data base and look up the record you want. The trick for this program is to use a series of "IF-THEN" statements to specify what level the player is on by declaring the variable "level." You do this in AmigaVision by using a "wait mouse" to set up the choices and collect a user response. This "wait mouse" is directly followed by a series of "IF-ELSE" icons followed by one "IF-THEN" icon which tests to see what their choice has been. The first "IF-ELSE" will contain the script line "response()=1" (which reads "If response = 1). That icon is partnered with a variables icon containing the statement "level=1." In Director II script, the code would read as follows:

```
if response=1 then level=1
else if response=2 then level=2
else level=3
end
```

Once it has a value for the "level" variable, your program will select all of the ques-

access the "object editor" to paste that information onto the screen. Directly following the "Waitmouse" icon is an "IF-THEN" icon containing the statement "response()=Cor". Based on whether the user response and correct answer are equal, a second "Waitmouse" will offer the "That's Right!" or "Oops" comments. The "that's right" waitmouse is followed by a variables icon with the statement "score=score+1" to increment the score variable. By linking the score with the level of play, we can keep detailed statistics for analysis in the "scores" subroutine.

What I have described above is the core programming which must happen if we are to achieve any of our goals at all. Get this section up and running before trying to add in any other features. The core program is a lot easier to debug by itself.

Some of the features which we would like to add to our program include a way to save a session, control of progress from level to level, separate question loops for True/False and multiple choice questions, some way to scramble the questions so that they don't always appear in the same order and a way to scramble the order in which the answers to multiple choice questions appear. Space will not permit a detailed description of the way to program all of these features, but here are a few hints:

If we want to keep track of the players and allow them to save games, we will have to use a separate data base. That would require the construction of a data base which allows the variables "name," "level," and "score" to be saved as a record in a data base where the key is a user-selected password. The "form"

which have been asked recently. Another possibility would be to come up with three or four different schemes for ordering the questions and use a variable to decide which scheme to use. Scrambling the order in which the answers appear poses a challenge. As far as I know, there is but one way to accomplish this feat, and that is to assign variables to all of the answers and then translate a mouseclick or keystroke into one of those variables. The computer cannot know which answers are correct if you scramble their order of appearance, but it can keep up with variables if they are properly used.

It is a good idea to use separate programs (subroutines) to present special parts of your program such as the scoring analysis, help screens or hints. The technique here is to establish the subroutine and then "call" it from wherever you may need it. The great thing about a well-behaved subroutine is that you can call it from anywhere in your program and it will take you back there when you are done with it. This also means that you can write a piece of special code once, and use it over from different places in your program as a subroutine.

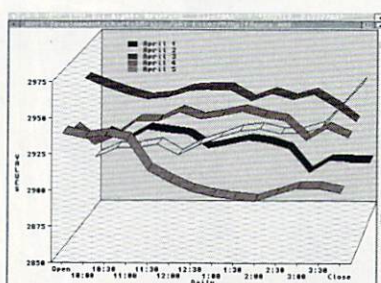
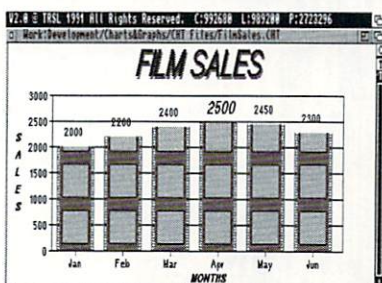
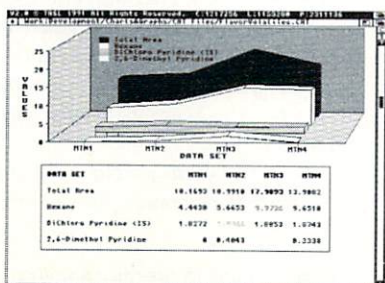
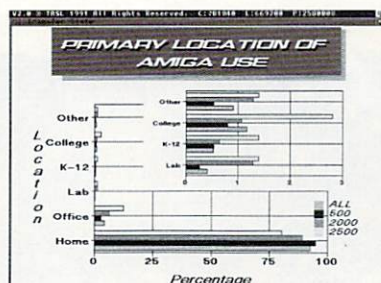
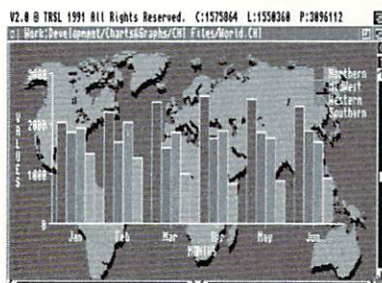
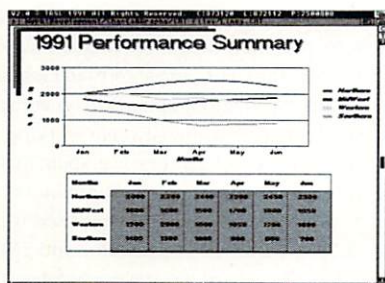
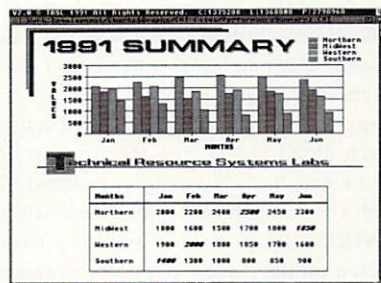
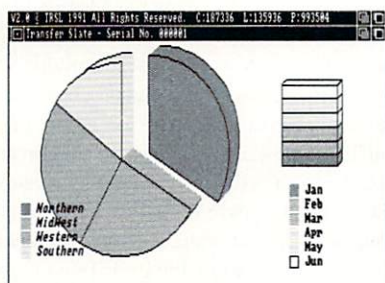
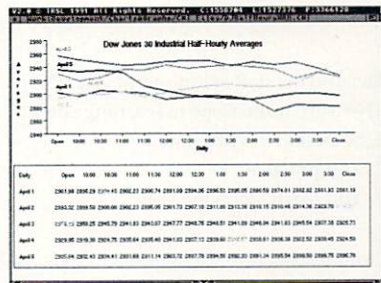
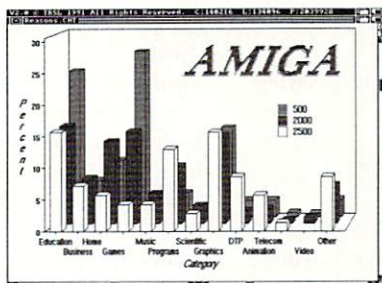
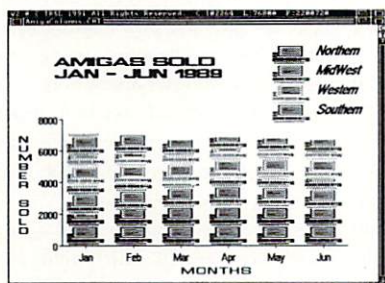
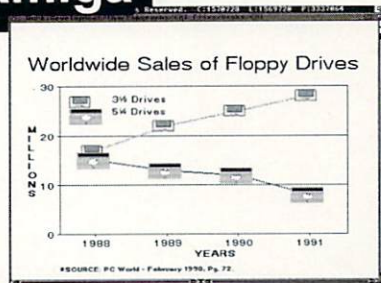
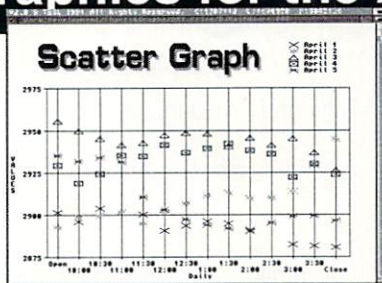
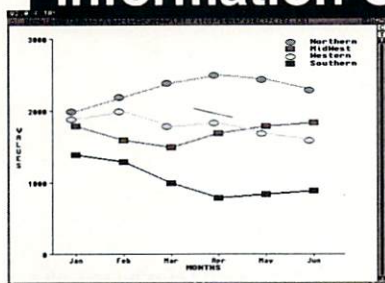
A program as well organized and complete as "Star Trek Trivia" will not be completed overnight, but if you plan your attack carefully and follow the steps I have laid out here, you can put one together more quickly and easily than you might have thought.

•AC•

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Producing a Video

by D. L. Richardson

D.L. Richardson is the creator of the video ANIMATION 101, an instructional video tape for Amiga animation.

When I was on the staff at Philmont Scout Ranch, we had a saying:

"There are three steps to learning something.

"1. Someone teaches you.

"2. You practice.

"3. You teach someone else."

I have seen the truth in this statement over and over. You don't really learn something until you teach it to someone else. Originally I studied animation at UCLA—someone taught me—and then worked as an animation cameraman in Hollywood and later as a director of films and videos which involved animation—I practiced. So I must know all the answers. Right? Wrong! While producing ANIMATION 101—teaching others—I constantly discovered better ways to animate scenes, so each time I would start the scene over again using the improved technique. Some scenes were redone three or four times, each time with a better method. I learned much while teaching others.

ANIMATION 101 is a concentrated course in real-time animation for video, based on the Amiga. It's about as close to a one-person production as it can get. I wrote the script, typed it, directed, acted, operated the camera, sound and lights, did the make-up and wardrobe,

edited, selected and edited music and sound effects, and, oh yes, did most of the art and animation. And although I appear on the screen as the instructor, I never forgot that the real star of the show was the Amiga. The instructor was merely the straight man. I have several theories about instructional videos and computer animation.

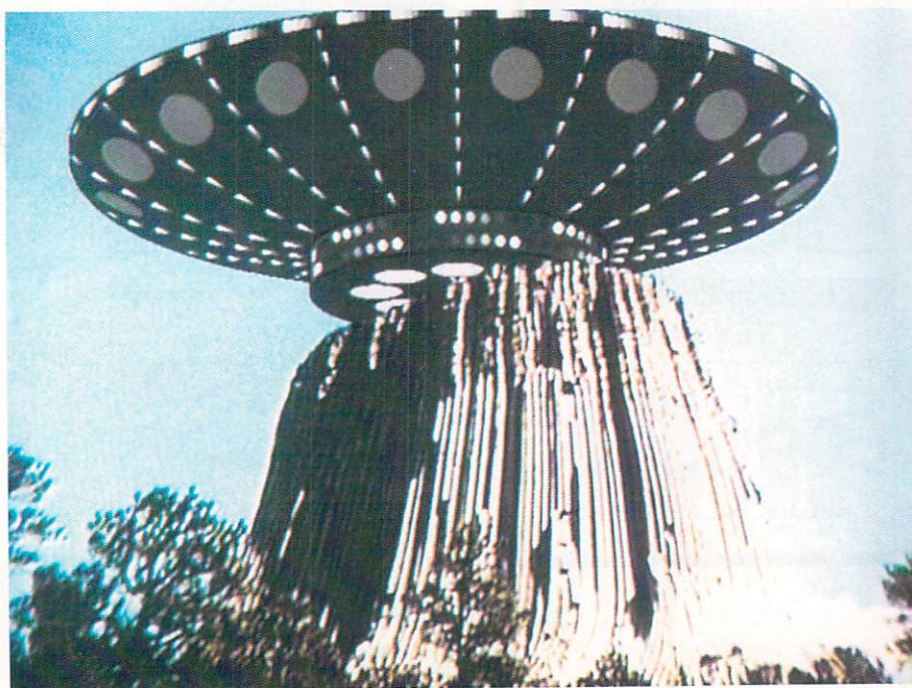
(1) The program should be entertaining and easy to follow, and the interest should build throughout the program. The viewers won't learn much if they go to sleep. For entertainment value, I depended on action, beauty, and humor.

(2) The lesson should cover useful information, not available anywhere else, certainly not in software manuals. Thirty-five years of experience in animation has taught me very much about what works and what doesn't. I'm always happy to share my hard-learned shortcuts with others.

(3) The software should be easy to use so that the animator can concentrate on the scene and forget about the mechanics, more or less. I'm not exactly a computer whiz. *Deluxe Paint III*, *PageFlipper Plus* and *Pro Video Post* filled the bill beautifully, and were used in 95 percent of the art and animation. In order to have the best possible live scenes on location, I traveled to four states. The pyramid scene was shot at the Great Sand Dunes National Park in Colorado, the weather report at Rocky Mountain National Park in Colorado, the Loch Teton monster scene and mountain scene at Grand Teton National Park in Wyoming, the UFO scenes at Devil's Tower National Park in Wyoming, and the RAP at Mount Rushmore in South Dakota. Some of the UFO scenes were later reshot on Mount Scott in Oklahoma. The complete production took almost a year working part time. The rest of my time was spent making other videos; even Amiga animators have to pay the rent. The computer used was an A-2000 with a 020 accelerator and 5MB of RAM. Other hardware used was SuperGen, Digi-View, Color Splitter and Perfect Sound. The program was produced on three-quarter-inch U-Matic video tape, and then bumped up to one-inch tape for a duplicating master. This keeps generation loss to a minimum.

Almost all of the graphics and animation were first generation. Instead of video

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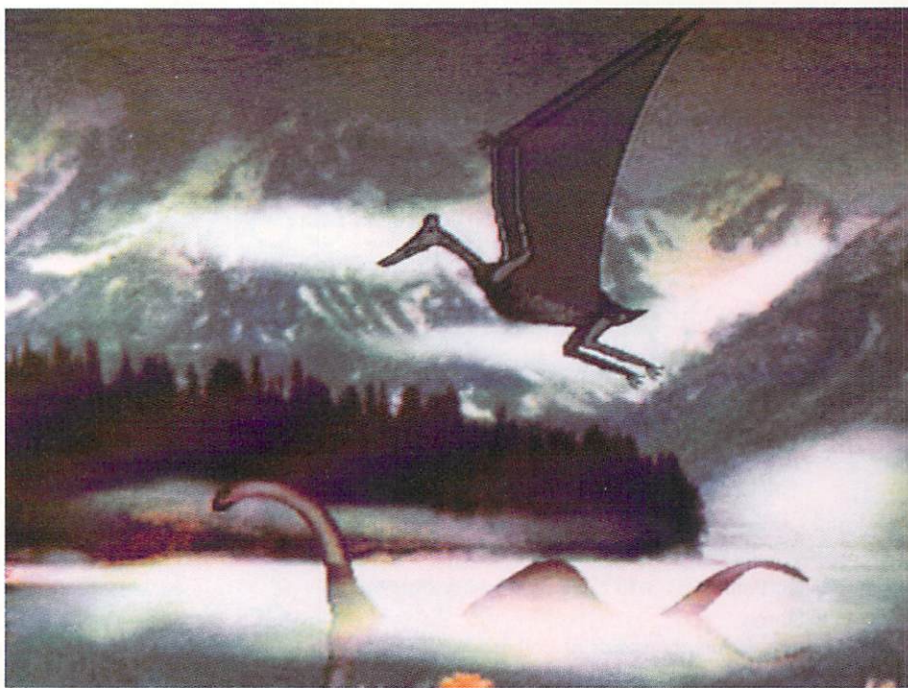
taping these scenes and then editing them into the master, which would be a second generation, I edited them directly from the computer to the master. My Sony VO-5850 system allows insert editing from an uncontrolled source. When one is writing a script, it's important to know the subject thoroughly, to have more information than can be included in a single program. So one of the major considerations is deciding what to leave out. The original script of ANIMATION 101 included several good points that had to be eliminated during editing for lack of screen time. The program was limited to one hour for several reasons: U-Matic tape has a maximum play time of one hour per cassette, and the cost of duplicating goes up if the program is longer than that. Some of the points that were eliminated are worthy of mentioning here.

(A) Computer screens and TV screens have a daylight color balance, which is about 5900 degrees Kelvin. But indoor, studio lights are normally tungsten which is 3200 degrees Kelvin. Daylight is more bluish, and tungsten is more reddish, or more accurately, orangish. A video camera will adjust its internal color balance to match the overall scene, so when a computer screen is included in an indoor scene, lit by tungsten light, the computer screen will look much bluer than the rest of the scene. There are two ways to correct this. The overall color balance can be changed to daylight by adding dichroic filters to all the lights, but this gets expensive. The other method is to change the color palette of the computer graphic till it looks alright, and you have to watch the video monitor to adjust it. It will look quite reddish on the computer monitor. This is the method used in the talking computer scenes in ANIMATION 101.

(B) This suggestion does not relate directly to the Amiga, but is useful to anyone using video cameras. Using a video camera, how do you zoom in extremely close on small objects? Zoom lenses will usually focus as close as one or two inches, but only in the extreme wide angle position. But wide angle lenses distort objects, and when you move a camera that close, the lens hood generally places a shadow on the subject. And zooming is impossible. The solution is using a close-up diopter lens, screwed into the front of the camera lens. Diopter lenses can be purchased at any camera store for a moderate price. They allow you to focus much closer and still have full use of the zoom. This was used in ANIMATION 101 to zoom in on a small VU meter.

(C) How can you make an animated object look like it's going behind an object in a live scene? In 101 the UFO appears to come from behind the Devil's Tower. The answer is *masking*. I started by shooting the live scene of the mountain. The camera was on a solid tripod so it could not move. I shot about two minutes of this scene to allow more time when creating the mask. Back at the office, I played the mountain scene, feeding the video signal to the genlock. Using Deluxe Paint, I traced an outline of the mountain while looking at a video monitor. The outline was filled and the mask was complete. In picking up the mask as a brush I included the area to the right, lower corner of the screen. Then by placing the brush handle in the lower right corner, I was able to position the mask correctly. Then it was just a matter of animating the UFO and erasing the mask area from all frames. When the scene is played back, with the addition of graphics with the genlock, it really does look like the UFO is coming from behind the mountain.

(D) All scenes, except one, were done in hi-res. The reason for doing one scene in lo-res was that it was a long and very complex scene.



It needed all 32 colors, and there was not enough memory to do it in hi-res. There is a problem in recording lo-res scenes on video tape, because lo-res is not interlaced, but professional quality video must be interlaced. The solution is simple: feed an external video signal, from a camera, to the genlock and set the sliders for graphics only. The lo-res scene will come out interlaced.

Producing the video was only half the battle. The other half was marketing. It's no secret that people are more likely to buy a video if they see part of it and like what they see. So I edited a fast-paced, 20-minute, condensed version to show to user groups, in trade shows and even in show rooms. This "Reader's Digest" version was repeated three times on a one-hour tape for continuous showing. It is called the DISPLAY TAPE, and is available on a free loan basis, for showing at meetings, seminars, expos, etc.

Color slides and negatives were made of several of the key scenes with a Polaroid Freeze Frame. The most expensive single item was the full color cover for the cassette, and I started with 5,000 copies. All typesetting and layout for the cover, flyers, order forms, address labels, letterhead, etc. were done on the same computer using PageSetter II. Although this is considered an entry-level desktop publishing program and does have limitations, I find that it does an excellent job when used with a Hewlett-Packard Laserjet II printer. If you're about to make your first video production, you're in for a great experience. But be informed that the first production always turns out to be a bigger project than expected. The solution is, be patient and stick with it. The finished program will be very rewarding. It may turn out great, but even if it's not as good as expected, the experience is still worthwhile because we learn from our mistakes. I had great fun making ANIMATION 101 and hope that feeling comes through to the viewer. Good luck with your production.

•AC•

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Making a Video with the Amiga

Graphics, animation, titling and editing

by Patrik Beck

Cable television has given us a number of wonderful things, tummy-sized commercials, 24-hour "Giligan's Island," and public access television. Public access to cable channels is arguably the best aspect of the three.

Public access puts thousands of dollars of equipment into the hands of people with grand ideas and minimal training, and then airs their amateur efforts to the public. Shows include such fare as high-school pageants, discussions of local interest, and low budget imitations of network shows. Results range from lame to bizarre. Most facilities have a charter or set of guidelines concerning the content of what is taped. Usually, whatever you produce cannot be sold for a profit and must be aired at least once. We used the public access facilities to create a promotional video for our band.

Rock and Roll on Video

To give an idea of comparable costs, we found that the best deal for having a promotional video professionally produced was a \$1000 package. This included studio time to record the sound track, which you lip sync when filming. This gives you a high-quality assembly line video that looks and sounds good but has little to distinguish it from the rest of them. Before the band shelled out a month's worth of gig money to pay for the video, we decided to check out some alternatives. Several local cable companies had public access facilities so I decided to check out what he could be done. One particular public access facility was run

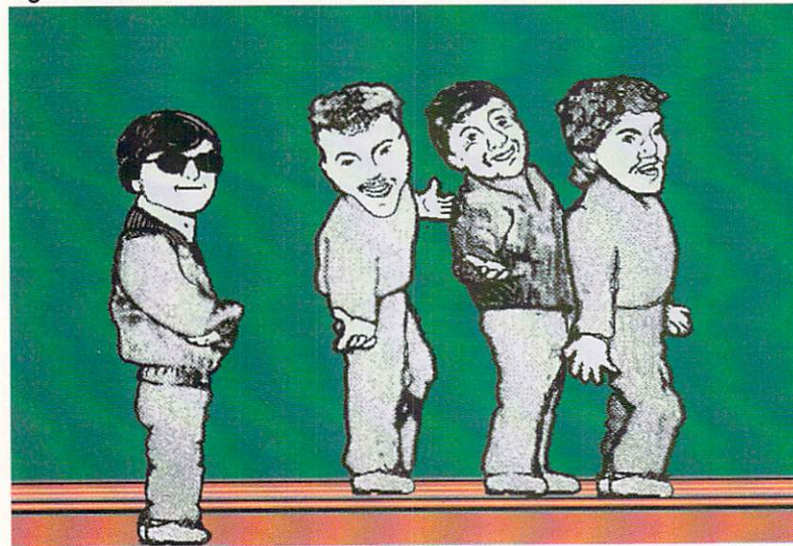
by a committee of volunteers. They had a large array of cameras, studios and editing suites. Gathering dust were two Amiga 2500's loaded with *DeluxePaint III*, *Turbo Silver*, *Photon Paint*, etc. The only tool that they actually used was Broadcast titlers character generator because nobody knew how to run anything else. I offered to help them out but was informed that I would need to attend an orientation session and a producers workshop, along with other meetings before I could use the computers.

After several fruitless meetings and phone calls trying to set up a taping, I finally gave up in frustration. Luckily they weren't the only facility around.

Take Two

A neighboring community also had public access facilities, though smaller and scantily equipped. They were much more amenable and easier to deal with. Our first meeting was to set up the shoot. It would be a three-camera shoot with the video being mixed in the can as we played live. They showed us examples of their work, bands they had recorded previously. The first thing I noticed were the graphics. Though they could do some nice A/B rolls and special effect wipes with the chroma key, the character generator left much to be desired. I asked if they would mind if I brought in my system to do the credits, and they replied, "You got one of them there Omegas? Sure, bring it in!" As I said, easy to work with.

Figure One



Pre-Production

With the power of the Amiga, I intended to do much more than simply scroll text. I toyed with the idea of creating a ray-traced 3-D animation for an opening, going so far as converting the band name and logo into a structured object. If I did everything right the first time, I might have finished it in time but I didn't want to risk it. If you're familiar with ray-tracing, you know what I mean. I also didn't want the graphic to overwhelm the music we were promoting. Instead I whipped out my trusty *DeluxePaint III*. I had previously used *Digi-View* to digitize a black and white caricature we had of the band. I used that as a basis for an animation. The picture consisted of the four members of the band in a classic do-whop pose (Figure 1). I used high resolution in overscan working with only four colors. Working with fewer colors has a lot of advantages, particularly those of us still using the anorexic Agnus. Not only do *DeluxePaint III* functions perform faster, but I was able also to clip out larger brushes, both conventional and animated. A ben-

of reduced bit planes often overlooked is that it reduces disk access time. Saving and loading small pallet animations from disk goes much faster. Later, I increased to three bit planes for eight colors.

The Plan

I decided the animation would have the four band members run across the screen individually and strike their poses one at a time. Once all four lined up, the name of the band would sparkle into existence. By making use of the move function and animated brushes, I felt I could complete it in time for the taping.

Let's Rock

The first thing I needed to do was clean and separate the band members as brushes, filling in body parts where overlapping on the original picture occurred. I then saved as brushes the four complete figures of the members as they would appear in the final frame. My next task was to create an anim.brush of running legs. Here is a hint on legs: draw one leg in a complete cycle (up-forward-down-back) in an even number of frames. Grab the leg as an anim.brush and save it. Forward the leg animation to halfway through and start laying the leg anim.brush down over it for the complete cycle. Your running legs should have perfect bi-lateral movement. If your legs have a slight "galloping" motion to them, you probably didn't start the anim.brush on the right frame. Once I had cleaned up the legs and filled in their outlines with a brush pattern snipped from the original picture, I needed to attach them to the band members. One by one, I loaded each brush and cut their legs off. I then used the move requester with all the distance and angle settings at zero to lay the brush on top of the animation of the running legs. Having the figures running with their arms outstretched looked pretty ludicrous, so I re-drew the arms bent close to the torso in a more natural running position. I now had two brushes of each member, a standing pose and a running animated.brush figure. I created the final frame first to use as a reference, and kept it as a spare screen. I would need to re-create that picture to the pixel for everything to line up correctly in the final assembly. A couple of tests showed that about 45 frames was a good length for the first figure to run on. I stamped the first anim.brush where I wanted it to end up, selected the 'goto' button on the move requester, double checked the movement first with the preview function, and sat back and let the computer do all the work. I gave the first runner a slight initial forward tilt, as if he were slowing down from running really fast. On the last frame, I erased the running figure and replaced it with the appropriate 'pose' brush, confirming that the figure was perfectly aligned with its counterpart on the spare screen.

I did the same with the next two figures, shortening their run time as they had a decreasing distance to cross. When I got to the last figure, it struck me that instead of having him run on like the rest, it might be amusing to have him slowly rise up from the bottom of the screen as if on an elevator. The casual stance and smirk on his face somehow made this seem appropriate. When I had saved the completed animation as 'part.one.anim,' I deleted all frames and loaded my reference picture to add text. I loaded the color font "chrome" from the Kara Fonts collection. It was at this point I realized that I needed another bit plane for more than four colors if I wanted the letters to look good. After some remapping, I was able to squeeze a chrome color spread out of seven colors (eight minus background which may be transparent) without changing the animation previously created. I placed the band's name, "Master Jack," over the reference picture enlarging the M and the J to approximate how the name appears on our posters and business cards. I also used the outline function to outline the text with black to make it stand out from the background (Figure 2).

When I was satisfied with the picture, I again copied it to the spare screen to use it as a reference. I wanted the name to take about four seconds to appear. As I was running at 15 frames per second, that meant 60 frames ($4 \times 15 = 60$), all of which had the original picture. With the filled rectangle tool and the background color selected, I erased all but a tiny sliver of the text from the first frame (Figure 3). Methodically I went to each frame, each time leaving slightly more of the text intact in matching increments. I ran out of frames before I ran out of text so I added a few extra to complete the sequence. After I had finished, I realized that the job could have been done quicker and more accurately with the move requester and a color zero brush.

Figure Two

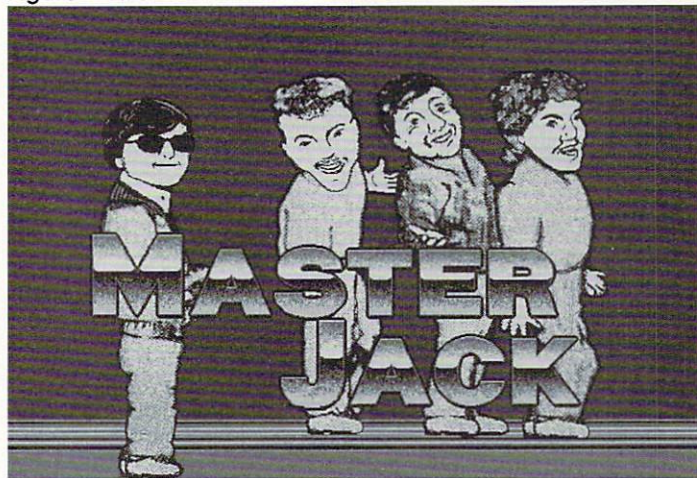


Figure Three



Checking and saving the animation showed what I expected—text appearing over the reference picture, preceded by big, ugly, color zero erase holes. To fill the gaps, I loaded the first reference picture, on the spare screen. Then returning to the animation, I used the merge-behind function. This filled the area erased when removing the text. If I had the chip RAM of the big-boned Agnus, I could have used a stencil or lock background while working with the text so that this step would have been unnecessary. As it was, the merge function took a few minutes. The final touch was to add some sparkles to the appearing text. I used the spray tool set to a narrow area, and sprayed the leading edge of the appearing text in each frame with a light color. This gave a sparkly effect to the letters as they formed on the screen. With this completed, I saved it as part two of the animation.

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Putting It All Together

I now loaded part one of the animation. When the requester asked if I wanted to reduce the number of bit planes to that of the file, I selected "no." This changed it to the same format as part two of the animation. I then loaded part two of the animation with the 'append' command. The two parts flowed together seamlessly. I added a few duplicate frames to improve the pacing and saved the complete animation on a freshly formatted disk. The entire file size came to a hair's byte under 801K, just fitting on a single disk.

Into the Studio

I assembled every font disk and graphic program I could possibly need and brought it with me, including all the files used in creating the main animation. I foolishly thought that I had all the bases covered. When I started setting up my system in the video studio, I was puzzled by the flashing of the green drive light. At home I have everything plugged into a surge protector power strip and turn on everything from its one switch. Unfortunately, when I had torn down my system, I must have been groggy with fatigue because I had left my DeluxePaint III disk in the drive and it was attempting to boot while I was playing mix and match with the power cords. Needless to say, the disk was corrupted. I thought to salvage it, since it was probably just the boot-up section that was damaged, but I had neglected to bring a Workbench disk. Yes, I was embarrassed, but I couldn't do a thing but waste an hour and a half running home and getting my backup. With my backup disk in place, I loaded and test ran the animation. The composite output of my genlock, a Pro-gen, was fed into the video mixer. A black burst signal was fed into the genlock's input to keep the output stable.

I instructed the person at the board how to run the animation, since I would be in front of the cameras while it was being recorded. If

I had had enough time, I would have written a script using *The Director* to make it run with the hit of any key. Things were going fine when something weird happened.

Murphy's Law

A loose connection or a faulty component somewhere in the video console gave way and all the colors of the graphics turned to their complementary counterparts. The blacks, greys and whites were unchanged, but the gradations of blues and golds were completely reversed. The explanation from the person in charge was "Yeah, that happens sometimes." I spent a frustrating 20 minutes readjusting the pallet to something appropriate. There was an inverse relationship to my monitor's colors and what the mixer was putting to tape. I just had to reverse the settings of the pallet sliders. It sounds easy now, but it wasn't then. The initial animation was the only graphic intended for overlaying on video. At the last minute we were told that we should include a contact phone number for schedules and bookings, and show it during our last song. I needed to quickly render the text in an interesting way, but not have it be distracting. I used an early titling program called *T.V. Text* to create the initial screen because it would give various versions of the same text quickly in different fonts, sizes and attributes (drop shadow, edges, etc.). I quickly created a text screen in four colors that filled about one-third of the page. I saved it as an IFF and brought it into DeluxePaint III. Of course, I couldn't just have the text scroll in and be wiped out, not with an Amiga on hand. But it was getting late in the day, so I chose the cliché of having the text flipping and spinning in from infinity—old hat to Amigans, but still impressive. Creating the whole animation actually took less time than making the text screen. I merely clipped out the text as a brush, stamped it back down and cleared the screen. I set the frame count to 35 and went to the move requester. I set the brush to rotate on every axis and set the z-distance at a large negative value. After some fine tuning with preview, I set it to render. After watching the result, I set the ease-in value to eight to smooth the final few frames and re-rendered. Total elapsed time was about 20 minutes, most of which was rendering and saving to disk.

Finishing up Text

This being a public access facility, we were required to air the final cut as a program, which suited our purpose perfectly. I volunteered to do the closing credit screens, which would not appear on our copy, so that a consistent quality of the graphics would be maintained. This was appreciated, as seeing their names on the screen is the only payment most of these volunteers get.

Conclusions

In these days of Toaster-mania and 24-bit miracles, it is easy to forget that a stock Amiga 500 with a little extra memory and a genlock is still a power house of video machine. When I was put in charge of the graphics, the question wasn't "What can I do?" but rather "What do I choose from?" Consider also, the \$750,000 video facility that charges \$1000 per video could not quote me a price for a character animation like the one that I created because they didn't have the capabilities. Everyone was pleased with the finished video. It had a look and personality uniquely our own. Our public access friends were so impressed by our professionalism as a band and the unique graphics that they are planning to enter the video into competition. I hope we win!

•AC•

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Patrik Beck

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GOLD DISK'S

Video Director

Low-cost Amiga Editor

by Frank McMahon

Since the Amiga is the premiere computer for video, it would only make sense to create a program that would let you use your computer to control your video edit decks. There have been several solutions in the past year or so, but most require additional hardware and expensive software. If these combinations are out of your budget or pretty much overkill, then Gold Disk has an alternative avenue. *Video Director* is a program designed more for the amateur video maker who needs an easy method to assemble his or her tapes into a final production. But make no mistake, *Video Director* can also operate on a prosumer level with full serial control support for the Sony V-box, Panasonic AG-1960RS (or Panasonic AG-1960 with Selectra's VuPort), and NEC's PC VCR. It even allows genlock events and tape library functions.

Setting Up

For testing purposes, I used a Sony Handycam CCD-F35 Camcorder for the source material and a JVC HR-S6600U SVHS VCR for the record deck. If you are not using a serial-controlled unit for your source, such as the prosumer models mentioned above, you must use a Sony camcorder or a LANC (Control-L) compatible camcorder or VCR. Sony camcorders have a small input on them usually marked remote, control-L, or LANC. If you have one of these along with an infrared VCR for your record deck, you will not need any additional hardware. Two cables come with the *Video Director* program: One is a serial cable which connects from the "remote" input on your Sony camcorder to the serial input on the back of your Amiga, and the other is an infrared cable that plugs into your second joystick port to control your record deck. *Video Director* will work with any Amiga with 512K or more.

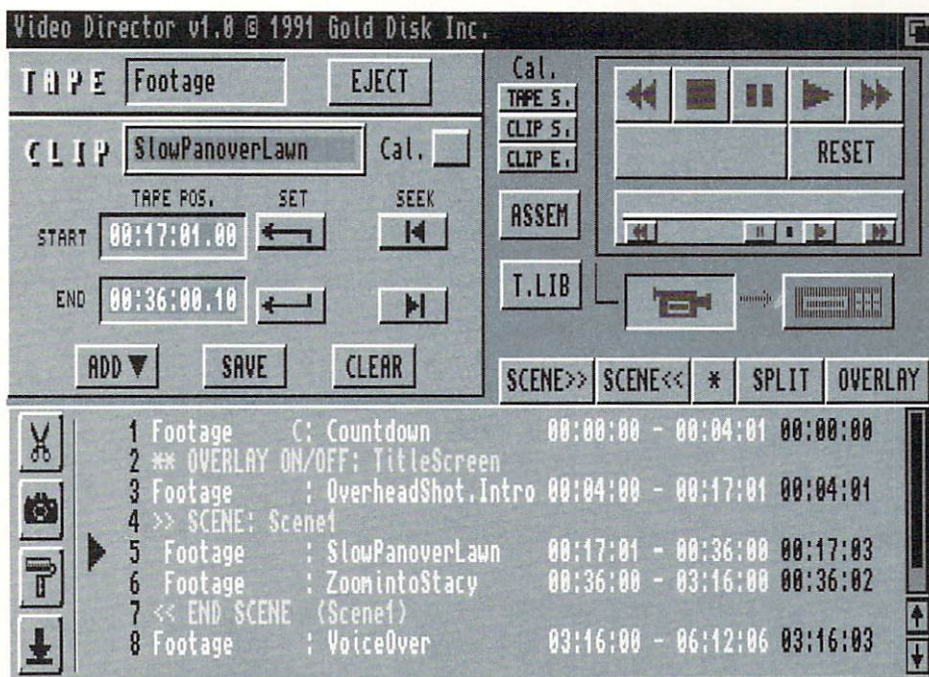
Once the connections were made, I had to "train" my record SVHS VCR using Gold Disk's software. A simple program tells you to aim your VCR remote at the infrared controller (plugged into the joystick port) and follow the prompts. It will set up to learn a "play" command for example and when I hit play on my remote, the program will "sample" the infrared beam. After all commands for stop, pause, play, rewind (plus reverse scan), fast forward (plus forward scan), and record are learned, the data is then saved to disk. Testing is done by aiming the infrared controller over to the VCR and hitting screen icons such as "Play." Since you can program the icons to anything you want, I was able to program fast forward to multi-speed forward scan, a command my remote has. Each time I hit the fast forward button it would increase the scanning speed. Generally speaking, if it is a single button

command on your remote, you should be able to program it and use it during your editing sessions. Before you run the program for the first time, you must also set which drivers you are going to use. A utility allows you to choose what type of control you want for your source and record deck. After, a driver file is saved to disk and is used every time you enter the program.

Running the software

After loading, you are presented with the main interface screen (see screen shot). The top left is an input window which allows you to type in the name of your source tape. The reason for naming your tapes is that if you have a production that was recorded on several different tapes, *Video Director* needs a way to

distinguish one tape from another. The eject button to the right needs to be clicked every time you switch a tape (it doesn't actually eject the tape). After you produce a long list of events, the program will automatically carry out each edit. When it gets to a different tape, an on-screen prompt will let you know when to swap your source tapes. To the right side of the screen is the main control buttons for the source and record decks. Standard controls appear above the reset button, which will zero out your tape counter, and below are additional transport tape controls. The amount of additional controls will vary depending on your camcorder. Examples would be "still-step" and "slow-motion." Not all camcorders have all features so it's best to try a few different drivers to see what works. As a matter of



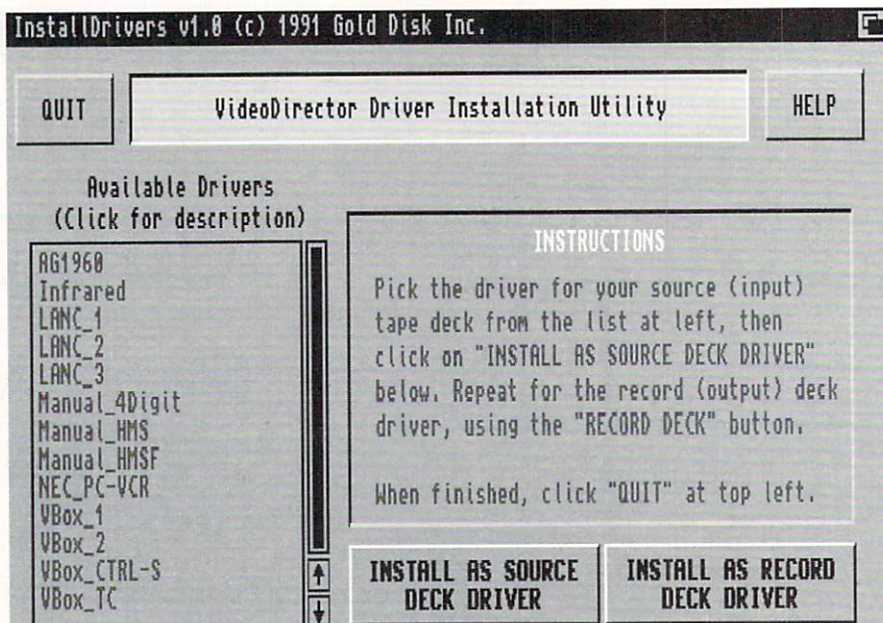
Video Director's main interface screen.

fact, I automatically installed the Lanc_2 driver since the program was for F30-F40 series camcorders (mine is F35). Most additional controls did not work or were not available. I tried the other ones and even though the Lanc_3 driver was designed for the Sony V9 series, it worked with my F35 activating non-working controls and giving me additional ones. So test all for best results. In addition to the button controls, there is a small triangle, in a bar just above, which allows you to "slide" through the commands with the mouse. This is the software equivalent of a scanning wheel on an editor, where you can slide to the right to scan forward, slide toward the center to pause, and slide to the left to activate reverse scan. Pretty handy—although it does take a little getting used to.

To the left of the transport controls is the clip window. Text entry lets you type in a clip name for every edit. There is also a calibration option which lets any edit become a point of reference event. If you have several tight edits coming up, it's helpful to precede it with a manual calibration. The software simply stops and requires the user to line up exactly where the tape *should* be according to the time counter. Long scans and large edit lists can introduce inaccuracy, so this method can be used to make sure the edits are as accurate as possible. A shot of a field would make a pretty poor calibration reference; however, a close-up of a stop watch (with seconds) or a camcorder counter, recorded onto your tape, is much preferred.

Let's Edit!

To start the editing process is as simple as cueing up the source camcorder with the on-

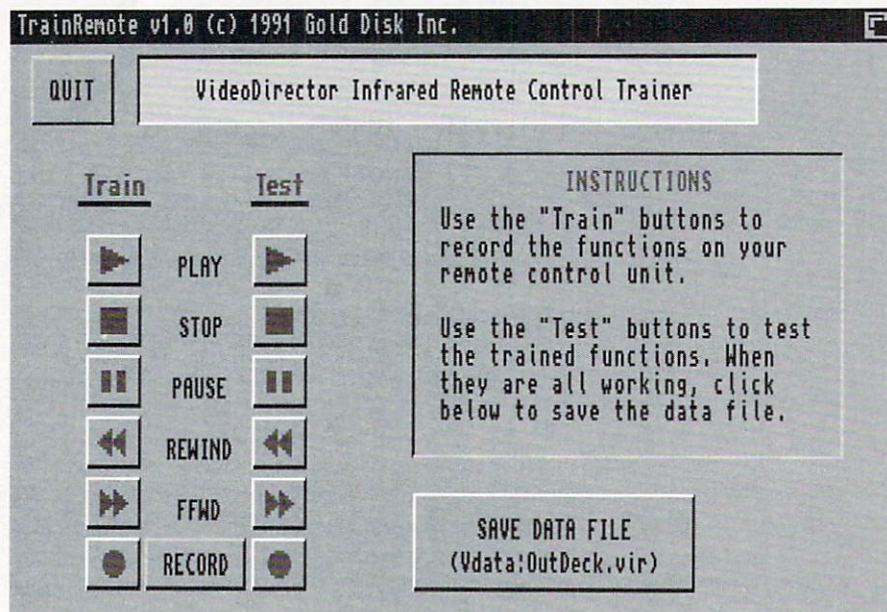


Video Director makes installation on your hard disk simple.

screen controls and selecting "Set" in the Clip window to the right of start. Your tape position will appear numerically to the left of the set button. Then advance the tape to the end of the scene and select set for the end point. To review your edit points, you can automatically scan to the positions again using the respective seek icon to the immediate right. Finally, click on "Add" just below and your edit is added to the master event list. Make sure you have a blank tape in the record deck and hit "Assemble." The edit is then performed automatically—it's that easy!

But Video Director's power lies in its ability to go beyond basic cut editing. You have numerous controls over your edit events once they are added to the event list. For example there are four icons on the bottom left of the screen which allow cutting, copying, pasting, and moving within the list. Let's say you were producing a video and it didn't quite flow as you had hoped. You can easily move scenes around or repeat specific scenes and then re-edit it. You could cut out a scene or even make one last a few seconds longer. In professional circles, this is called an "edit decision list." What if you were using a regular edit system and you had just edited a commercial for a car dealer? The manager of the dealership comes to see the completed commercial and says, "Boy, I would like the car in the middle to be shown longer, and can we take out the older model?" In the past, it would have meant editing the entire commercial over. But Video Director keeps a decision list of each and every edit, automatically saved to disk whenever you choose "Add", in the order they were put on tape. Changing a commercial would be as easy as hitting a few icons to change or delete events. Then hitting "Assemble" would automatically reproduce the entire commercial with the changes intact.

These event lists include many other functions as well. You can import or export them as standard ASCII text files to be used on other computers, or just to examine. Scenes can be created which contain a nest of edits and these scenes can then be moved or repeated. This is similar in concept to what *Deluxe Video III* does with graphics. Every edit event is saved in a master file Tape Library which can



"Train" the buttons on your remote to control the functions of your VCR via Video Director, your Amiga, and a special infrared cable.

be called up from disk at any time. This includes not only edits from the current session but every edit made from day one using the program. If you had a particular sequence from a few months ago you wanted to use for your current production, simply enter the tape library, choose the scene of edits, and add it to your current event list. During the automated assembly procedure when the scene comes up, you will be prompted to insert that specific source tape into your camcorder. In addition the tape library can be sorted alphabetically by tape name or by clip name for easy referencing.

Other features include an option for a synthesized voice to announce important command prompts and genlock control. Video Director currently supports the SuperGen 2000s, allowing you to incorporate a graphic event as a regular edit, so adding titles can be part of the automated process. Commands such as fading in and out are available. You can also "split" a clip and have a graphic appear in the middle of an edit. Most other genlocks will work as well, but you may need to fade them up and down manually when the graphic event comes up during the automated editing session. Pre-roll time is adjustable to ensure accurate edits. Finding the correct pre-roll time takes a bit of trial and error using a method such as a tape of a stopwatch, but when you find the correct amount for your system (the default is two seconds) edits will be more accurate. Pre-roll time in professional systems is the amount of tape time the machines back-up before performing an edit, allowing a five to 15-second span for the decks to get up to speed before performing the edit. In Video Director, this somewhat incorrectly means the amount of time from when the program starts the record deck to the time the tape actually starts recording. One final feature worth mentioning is that even if you don't have a way to hook up your camcorder and tape deck, you can still use Video Director in manual mode. More time consuming and a bit tedious, it does allow keeping track of all your events and when the final assembly occurs. However, you must control the decks via on-screen prompts.

Final Results

My tests went very well using the Video Director. I took some raw footage from a program I had produced and re-edited it on Super VHS. There are a few drawbacks worth mentioning however. Tape accuracy is entirely dependent on the equipment used. Basically, using a serial-controlled source deck with a dedicated controller, such as Selectra's VuPort, that calculates time in frame amount, will give you accuracy within a few frames, quite acceptable for prosumer applications. But using some Sony camcorders with the included cable that only rely on a four- or five-digit counters

(frame counts are averaged internally in the Video Director program) the accuracy can slip from two up to seven frames. The program does a great job with various calibration techniques to compensate though. I'd like to see more programmable command icons for the infrared controller. An additional bank of commands that can be programmed, labeled, and used would be most welcome. There also needs to be an icon for insert editing, video or audio only, if the VCR remote supports it, since all editing with the current software is done in assembly mode, combined audio and video, using infrared. Auto clip names are needed, maybe a numbered sequence, since constantly typing in a name for each edit gets tedious real fast. "Seek" needs a user definable compensator amount for certain camcorders. I found I would set a start time, hit the seek icon, and when it went to the start time again, it would stop a few frames after the actual time. It reminded me of when one hits the car brakes, there is a small lag time until a complete stop. Maybe my camcorder needs new brakes, but it would be nice to input a variable similar to the pre-roll time—post-roll time maybe? Finally, some bigger transport icons—the second set are too small to be located easily when you are concentrating on another video monitor. Function key equivalents for transport controls would be a plus as well.

With a great program you naturally want more, so don't take the above requests the wrong way. I find this program a lot of fun and give it a first class rating. The fact that anyone with a Sony camcorder and an VCR can now produce completed productions using the Amiga is excellent news indeed. Spending more for hardware options will produce added accuracy for professional results. The way the program keeps track of everything from edit points to tape swapping certainly takes the chore out of editing and, like any great Amiga program, gives you the means to forget about the mechanics and concentrate on creative expression. Invest in Video Director—the applause from your viewers will be worth it.

•AC•

Video Director
Price: \$199.95
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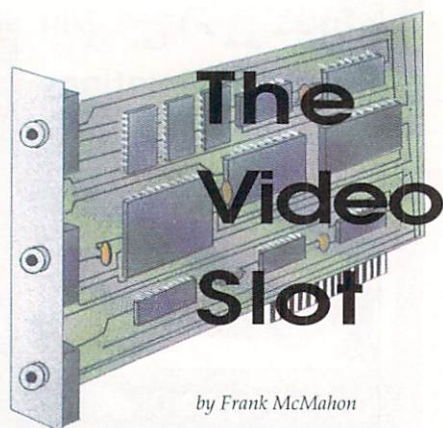
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Circle 119 on Reader Service card.



by Frank McMahon

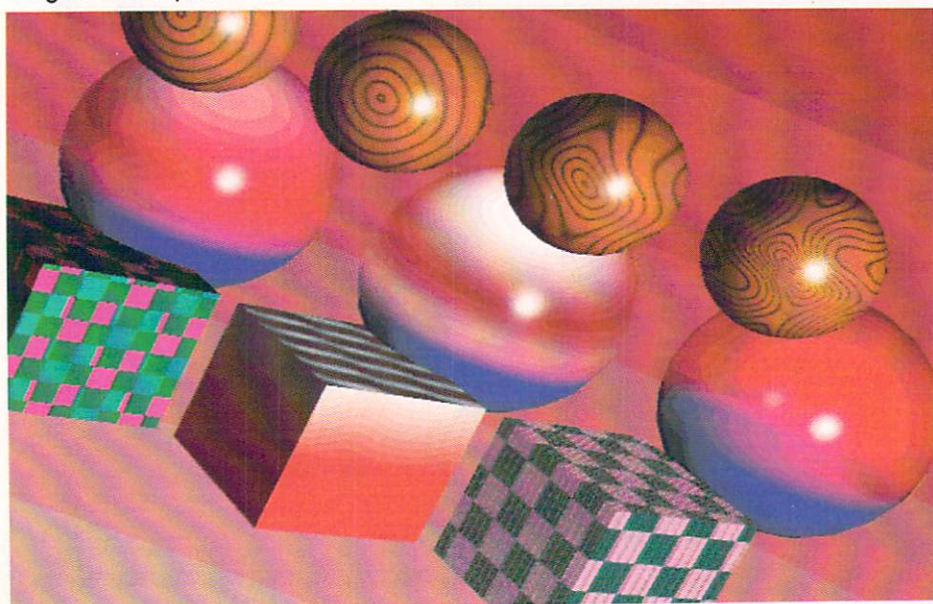
Getting the Most from Imagine 3-D Help Programs

Supplemental materials should be available for every Amiga product. It's difficult for one manual included with a specific program to completely explore all of a program's vast possibilities. Tricks, combining features, altering output and more secrets are usually found by users who are willing to put long hours into a specific piece of software. More notably, 3-D programs have vast uncharted terrain, making additional materials all the more valuable. When a solid, feature-packed program such as the 3-D renderer/modeler *Imagine* comes out, supplemental materials are the icing on the cake. We'll look at three such offerings on three types of media: disk, print, and video. All go beyond the scope of the original *Imagine* package, sometimes in alternating directions.

Imagine the Possibilities

First up is a professionally produced video tape entitled "Imagine: The Possibilities" that sets out with a brief overview of the program before settling into specific details about the various parts of the software. The first section that gets most of the attention is the segment on *Imagine*'s Detail Editor. It's fitting because all renderings start with an object, and the detail editor is where it all begins. Tips on keyboard equivalents and multi-selecting are great time savers. Moving the location of an axis to create unique shapes is demonstrated. Work-arounds for slice error messages and using the merge command to delete hidden points are included. Other areas of interest are discussed including: IFF to object, mold requester, extrude, replicate to create a wall of objects, quickcenter, conform to, lasso, and picking and dragging points among other features.

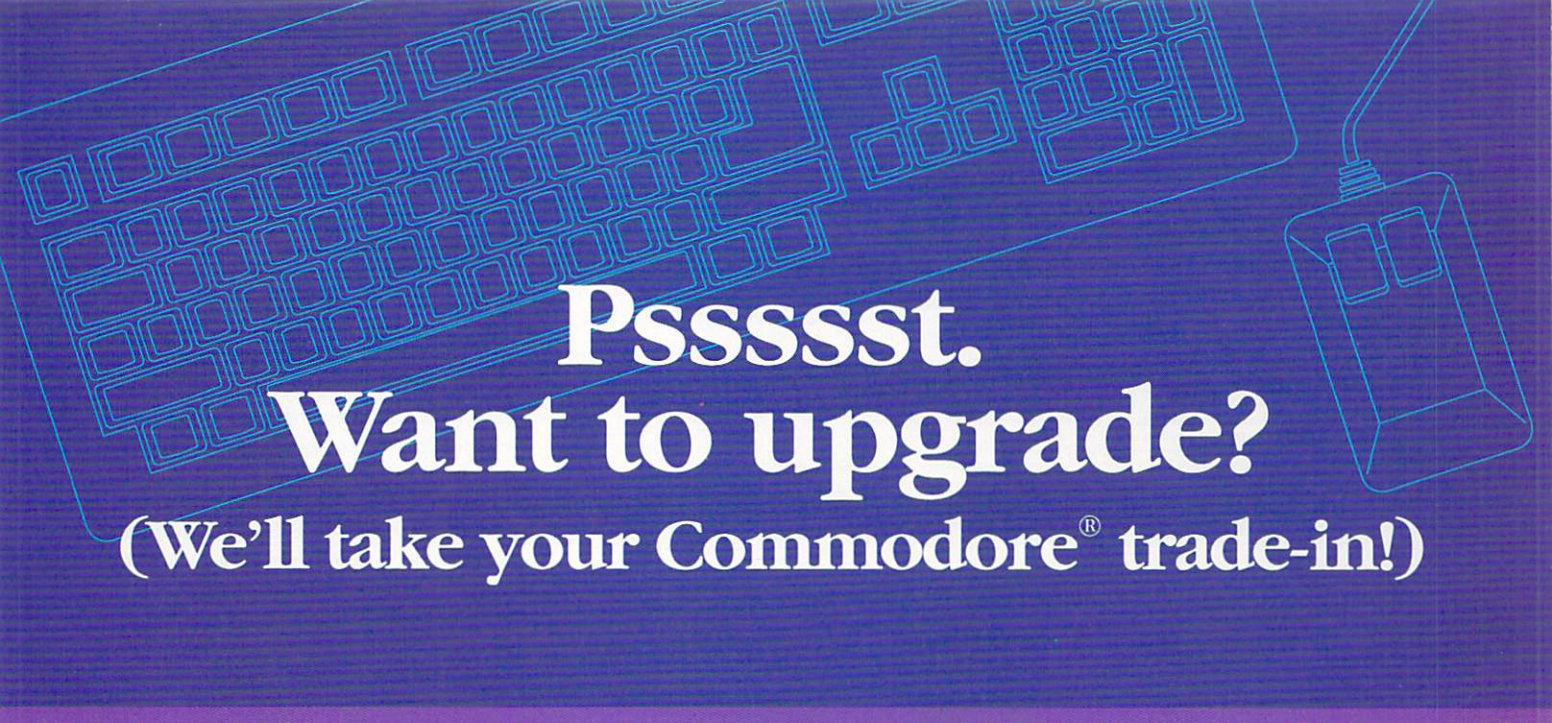
Below: Example textures from Surface Master rendered by author using *Imagine* from Impulse.



The next stop is a trip through the Forms Editor. This is the part of *Imagine* that lets the user create unique shapes quickly, shapes that would be difficult to create on a point-by-point basis in the object editor. Tutorials on surfacing moving, symmetry, and building segments are included as well as some tips on creating a head. While the Forms Editor is probably the least part of *Imagine*, offering fewer features than any other, it also shows potential not realized in this tape or even the *Imagine* tutorial manual. I would like to have seen the tape spend a little more time with this section, offering more uses to this seemingly interesting object creation aid. The tape shifts into high gear with a solid explanation of the Attributes requester. Object surfaces are a critical part of 3-D rendering so that this tape gives the attention this part of the program deserves. Topics of discussion include phong shading, fastdraw, bright objects, light source objects, light source data, reflect, filter, transparency, specular, dithering, hardness, roughness, shininess, and refraction. Most include rendered objects highlighting the current setting being discussed. This is pretty much standard throughout the tape and it's something that is hard to do in a black and white manual with tiny pictures. Visual impact is something this tape doesn't lack.

Other attribute requester sections include easily creating an animated wave texture, altitude mapping (bump-mapping), and animating a brush on a moving object. Aside from the animated wave tutorial, one omission is the lack of time devoted to the texture options. While a generic explanation is presented, there is nothing that goes over specifics on creating wood, brick, or any of the other numerous textures aside from a recommendation to purchase the program *Surface Master*. It's too bad because this is easily the most mystifying part of the program and one which would almost seem a natural for a tape designed to explore and de-mystify. Lastly, the tape takes us through the Stage editor with special emphasis on the Action editor. Too much time is spent on lighting and not enough on the other Action editor features such as hinge, object tracking, and animated F/X. More time should have been devoted to the Stage editor but the information contained is certainly beneficial including a neat trick to quickly speed up rendering times.

The only problem with this tape is that information blazes by at such a pace that at first I thought I had hit the fast forward scan by mistake. Add to this the fact that it is tightly edited with limited screen refreshes and that



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RuFOS™ (Reduced Functions Operating System) - The Programmers Performance Tool.

RuFOS™ is a tool designed to make programming the Amiga easy. This tool is a collection of routines designed for assembly and C. The assembly system is based around a simple parameter file, while the C functions are stand alone. The complete RuFOS™ kernel can be accessed equally well from both languages.

Using your C compiler, the RuFOS™ library extends the C language, making today's complex multi-tasking computers easier to program, and allowing true source code portability from computer type to computer type.

Currently RuFOS™ works with three development systems for the Amiga:

- 1 - The Manx compiler/assembler/linker.
- 2 - The SAS/C compiler/assembler/linker.
- 3 - The freely distributable A68k assembler and the freely distributable Blink linker.

RuFOS™ is vast, including custom menu, parser, text, font, io, and full screen editor routines. Operation is simple and straight forward. To demonstrate, here is a simple C program that uses the menu system (note the screen, io, text, and memory functions):

```
main()
{
    int x=0; extern header1;

    rokscreen(320,208,4); /* Open a custom screen with the desired dimensions. */

    while (x != 13)
    {
        x=getinput(); /* Get any input specifically for this program, if no input then task sleep. */
        if (x == 361) menu(&header1); /* If input = right mouse button down, then enter */
        /* menu system using specified menu file. */
    }

    leave(); /* If input = escape key (ascii 13) then return all allocations and exit program. */
}

void proc1() { print("Procedure #1",0); }
void proc2() { print("Procedure #2",0); }
void proc3() { print("Procedure #3",0); }
```

Compile the C file, assemble the menu file, and link with the RuFOS™ kernel object library.

Every bit of code in the RuFOS™ kernel was created from scratch, written in 100% assembly. The RuFOS™ system adheres to all Amiga programming rules and is fully multi-tasking.

Included with your \$50 purchase is the disk containing the object libraries, parameter files, and examples in both C and assembly. Also included is the complete manual describing in detail all of the custom functions in the RuFOS™ kernel.

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Send a disk for a demo disk in return.

Circle 155 on Reader Service card.

all tutorials were done on a Amiga 2000 running at 50MHz! The advantage is what could have been a five-part series is condensed into one 60-minute tape. The problem I had was following along with my computer, but I guess that's why they invented the pause button.

On the plus side, the tutorials are presented clearly and with lots of rendered screens and animations to accent the discussion. Although I strongly recommend a few hours on a Soloflex to increase your mouse moving muscles in order to keep pace, "Imagine: The Possibilities" is a first class show.

Surface Master

While some 3-D programs such as 3D Professional provide built in textures such as marble and wood, Imagine's texture control is via numerical inputs. Surface Master takes a lot out of the guess work and experimentation in trying to create surface attributes for Imagine objects. It's a welcome relief because creating surfaces without a very deep understanding of the various parameters and their effect on the texture outcome is chancy at best.

The software comes on one disk and is actually a combination of files. The main part is the Surface Master slideshow which details all the textures and surface attributes that are available with the included files and supplied information. With so many textures and shading on different objects on the same screen, a

lot of remapping has been done to assemble the pictures. For this reason, I recommend rendering the objects yourself for a more accurate example of the different techniques. In fact in the Objects directory all the objects (boxes and spheres) are included with texture/attribute definitions so you can render them or use their settings for your own objects. The Attributes directory holds numerous attribute files which can be easily loaded via the requester inside of Imagine. Attributes and Textures are available for a wide range of variables including diamond, ruby, glass, crystal, water, steel, pewter, plastic, ivory, chrome, brass, gold, copper, brick, and water. Several types of wood are included such as birch, cherry, pine, black walnut, oak, and red cedar. The manual goes into exacting detail concerning all aspects of surface properties including sections on setting reflect, filter, dither, roughness, specular, hardness, shininess, and refraction. Textures get equal treatment centering on linear, radial, checks, angular, grid, dots, bricks, disturb, wood, and combining textures.

The only drawback to this program is that there is no technical support via a phone number; however, an address is supplied. Nevertheless, the program is so well laid out that help shouldn't be needed. The 15-page manual looks brief but is packed with many years' worth of texture experience. Don't be put off by Surface Master's modest packaging. This

disk will save you weeks of work trying to get correct surface textures. I highly recommend it. After purchasing it, you'll wonder how you lived without it.

The Imagine Companion

Lastly we have a solid piece of literature that is packed with information. "The Imagine Companion" is a 182-page ringed book that comes with a supplemental disk of files. The book attempts to "expand upon the documentation included with Imagine." It is divided into several sections beginning with some general notes on accelerator boards, making glass objects, using Imagine's requestors, and creating self-running animations. The manual then lists numerous notes about the specific sections of Imagine. The Detail Editor section gives tips on brush mapping, textures, faster zooming, mirroring objects, and beveled edges. The Stage Editor section discusses world and object sizes, ambient lighting, tweening, and creating a simple rotation. The Project Editor is highlighted but the best part is the expanded section on the Cycle Editor, which goes a bit further than the Imagine manual.

Next are tutorials that comprise a major portion the book. The tutorials include path extrude, altitude brush mapping, lighting, cycling, ripple FX, creating spotlights, depth of field simulation (using DCTV for post-production effects) and several others. While some tutorials are drawn out more than necessary, they are, nonetheless, very easy to follow and provide the exact results they describe. The tutorials don't assume the user has a great knowledge of Imagine, so the detailed explanations are excellent for beginners and even novices.

Conclusions

I highly recommend all three of these products and have used each extensively. The "Imagine: The Possibilities" videotape gives a great overview of Imagine with valuable tips and techniques, and the Imagine Companion gives complete tutorials along with tips and information you won't be able to get elsewhere. However, Surface Master definitely rates as a must-have. While the other two will help you learn, Surface Master will quickly give you texture results that look beautiful. If your budget can handle it, I would get all three. Each will help you further your knowledge and expand your "Imagine"-ation!

•AC•

Please Write to:
Frank McMahon
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

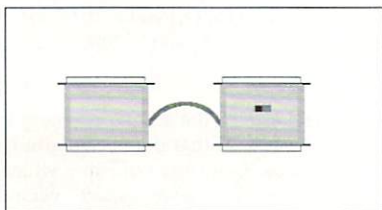
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ARexx and ADPro:

A Program for Conquering Every Aspect of Pixels and Images

by Merrill Callaway

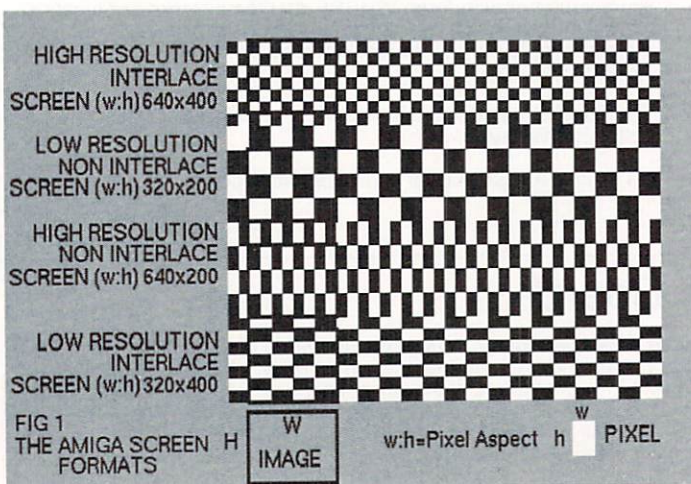
Non-Programmers ReadMe!

The videographers I know are relative newcomers to the Amiga, and for that reason, are not so interested in ARexx, but this month's column has great utility for users of the *Art Department Professional* (ADPro) for processing video images. If you don't program, you may simply copy these programs into your Rexx directory and start using them to help in your work. They sport a friendly, Graphical User Interface (GUI), and are easy to use—but *not* to type in! For those who desire it, I am making a disk available with all programs, libraries, and documentation for \$10 postage paid. I will be upgrading the program to include functionality for the *Firecracker 24* formats as well. Second, for intermediate level ARexx programmers who are interested in graphics on the Amiga, there are some ideas here that you may find stimulating, particularly how to build a GUI using the *RexxArpLib* library, by Willy Langeveld. This shared library (you may download it from BIX) gives you ARexx hooks into Amiga Intuition gadgets, windows, etc.

Every Aspect of Pixels and Images

Four situations recur frequently in Amiga graphics:

(1) How do you deal with images imported from a device that uses square pixels once they are inside your Amiga? Suppose you have a picture to scan on the Epson ES300C with 1:1 pixel aspect, and you want to fill a 640 x 400 screen. If you scan it according to that pixel count in the ADPro driver window, it will fill your screen all right, but it will appear too "tall and skinny" compared to the way the original looked, even though the number of pixels remains at 640x400. Try scanning a piece of graph paper with a square drawn on it. It is obvious that we need to scale the height down a bit to get the proportions back, and suppose we do. Now, the image looks OK, but it's too short and no longer fills the screen—not what we wanted do! We obviously need both to scan a taller height in pixels and also scale the height down afterwards to fill the screen with an image of the proper aspect. How



do we do this? We need to do what is called "scale to pixel aspect" while simultaneously scaling to fit the screen. Pixel aspect is the ratio of the pixel width dx to its height dy (dx:dy). Aspects generally may refer to pixels, images, or the screen format itself. We will use different variables to distinguish which one we mean. Some commonly accepted pixel aspects for popular programs are 10:11 for DeluxePaint; 69:80 for DCTV (in overscan); and 11:13 for ADPro. The Epson ES300C scanner uses 1:1 pixels.

(2) Assuming we have a correct pixel aspect, the second problem is more common: How do you scale the data so that if you render it in another Amiga screen format, it will look right? Refer to Fig. 1, which shows what we mean by the screen format's "pixel aspect" versus "image aspect." Screen format pixels have an aspect of width w to height h (w:h). The red rectangles represent an IMAGE with a constant aspect W:H rendered in different Amiga screen formats. Notice that it takes different numbers of pixels in the W and H directions to render the "same" image in different screen formats. The "pixel aspect" to do with screen formats is *not* always identical in meaning to the "pixel aspect" in (1) above. This is why people sometimes get confused. "Screen format" pixel aspects are determined by doubling, dividing in half, or leaving alone the width or height "image pixel counts". ADPro distinguishes these screen formats accordingly:

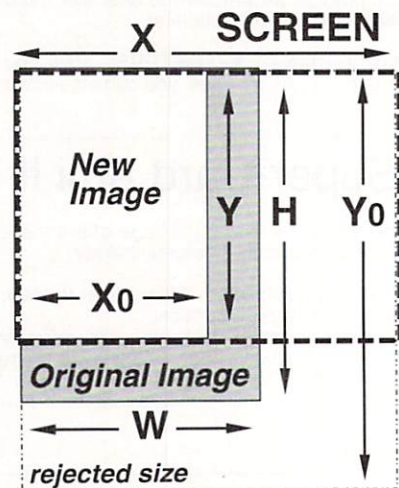
Pick one or the other of these equations:

$$\frac{W}{H} = \frac{X}{Y_0}$$

$$\frac{W}{H} = \frac{X_0}{Y}$$

$$Y_0 = \frac{H}{W} X$$

$$X_0 = \frac{W}{H} Y$$



IF $X_0 > X$ THEN USE X and Y_0
IF $Y_0 > Y$ THEN USE X_0 and Y

Here is an example of the latter case:
We use X_0 and Y for our new image dimensions. Note: the above are mutually exclusive possibilities. The Screen is the heavy dotted line. Rejected size as too large is the light dotted line.

Fig 2
How to Scale an Image to Fit the Screen.

1. High Res Interlace = 22:26
2. Low Res Non-Interlace = 44:52
3. High Res Non-Interlace = 22:52
4. Low Res Interlace = 44:26

These four values represent the basic four Amiga screen formats, even though 1. and 2. have the same "pixel aspect" of 11:13 as defined in (1) above.

(3) A related problem is to scale the data so that you will get as near a full screen as possible, and still keep the image aspect correct. Fig. 2 shows the relationship between an IMAGE with an arbitrary aspect W:H and the Amiga SCREEN aspect (X:Y). Solving the two equations for the two unknowns, X0 and Y0, we then compare X0 to X and Y0 to Y. We use these inequalities to decide whether to use (X and Y0); or (X0 and Y) as our new dimensions. Only one of the inequalities can hold true for a given image aspect. In the case of an exact fit, then neither inequality is true.

(4) A further complication comes when you consider using Overscan. The Amiga Overscan increases the W pixel count by 15% and the H count by 20%. There are 128 possible transformations: 4 screen formats, plus the same four in Overscan, transformed both to and from each other in both the X and Y directions: $128 = (4+4) \cdot (4+4) \cdot 2$.

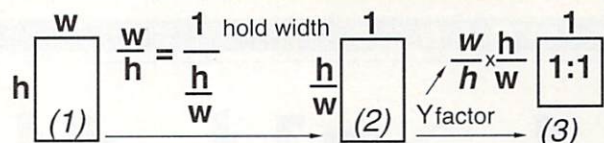
All the resolutions, colors, and screen modes on the stock Amiga 3000 add up to 208 possible combinations! This alone is enough to drive you bonkers when you're trying to get an image ready for a deadline, never mind worrying if the pixel aspect—not visible in the displayed image—is correct. The final straw: There is also the vertical adjustment on your monitor to consider! Good old ARexx comes in handy. With a little programming, you can scale from any screen resolution with or without overscan, to any other with ease, and you can make the pixel aspects just right for your application.

Step by Step

The Amiga screen has an aspect, and it varies depending upon where you have set the monitor's vertical height controls, so the first thing to make sure of is the correct adjustment of your monitor. In some monitors, this is a small screw inside a hole in the back; in a 1950 it's a knob behind a door in the side. I like to use *DeluxePaintIV* in "BeSquare" mode, and draw a light colored solid square—hold down the shift key—and a smaller square inside the first. Then, with a clear plastic ruler—not metal as it will mess up the magnetic field of your screen—measure the squares for accuracy. If they are off, then adjust the monitor's vertical height to make them truly square. Now we are ready.

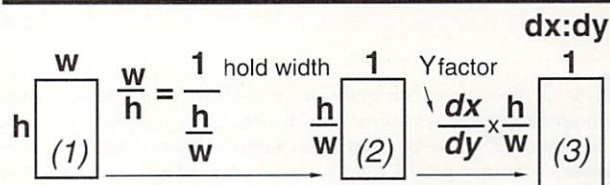
Scaling to Pixel Aspect

Fig. 3 illustrates the arithmetic to do with pixel aspects and scaling between them. To answer our question in (1) of how many pixels to scan at 1:1 in order to fill a 640x400 screen, we find that with 1:1 pixels,



(1) Pixel has w:h aspect. (2) Hold width a constant value 1. (3) Transform to a 1:1 pixel aspect using Y factor w/h.

(A) Scaling to a 1:1 pixel aspect.



(1) Pixel has w:h aspect. (2) Hold width a constant value 1. (3) Transform to a dx:dy pixel aspect using Y factor dx/dy.

(B) Scaling to a pixel aspect dx:dy.

(C) Image W by H pixels with aspect w:h will thus scale to X by Y pixels with aspect dx:dy where:

- (1) $X=W$
- (2) $Y=(dx/dy)(h/w)H$

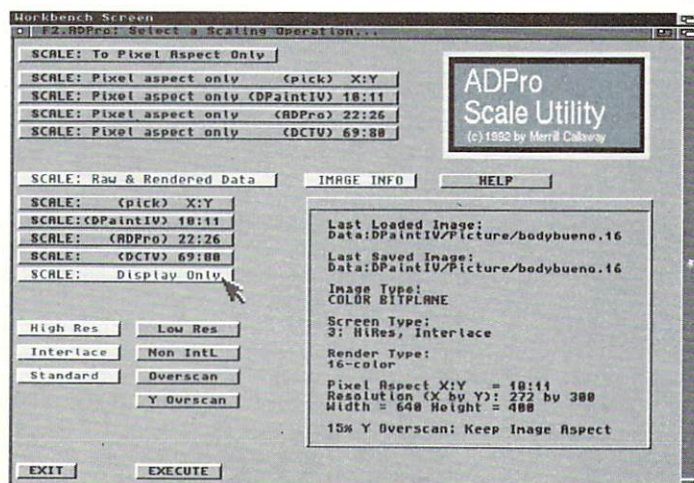
Fig 3 How to Scale to a New Pixel Aspect.

you should scan at about 640 x 472 pixels to fill a hi-res interlace Amiga screen. If we use the ADPro hi-res pixel aspect of 22:26, then we need to multiply the nominal count of 400 by 26/22 which comes out to 472. Note how we work backwards by using the inverse dy/dx of the Y factor dx/dy from Fig. 3. (B). In a 1:1 image, h/w=1 and drops out. We see that indeed, $(22/26) \cdot 472 = 400$, which is what we wanted. The arithmetic is not complicated, but it is tedious; and there are a lot of transformations to memorize if you do these conversions manually, so we let ARexx eliminate the tedium.

Building a GUI

The REXXArpLib library is handy for our purposes. ADPro has an ARexx macro capability, but its requesters are limited to just a few characters, and we have many interconnected decisions to make. A window with logically interlocked gadgets is ultimately the best solution. Press F2 while in ADPro. The F2.adpro program loads libraries if necessary, checks for a large enough Workbench screen, and opens a custom screen if necessary. Then it creates a host application complete with I/O port names, opens a window, and builds some gadgets. It also calls guiPostMsg.rexx to put up our image information in its own window. All that REXXArpLib library gadgets do is to send a command string to a host application port name of your choice. That's why we program our system as several smaller ARexx programs which some gadget "calls" when clicked on. The F2.adpro program does its thing and exits, leaving behind a window wired to send particular strings whenever gadgets are clicked. Notice how we can send arguments along with the string; for instance the position of the mouse pointer in the %x %y arguments. Also notice the finicky way in which we must quote long strings to insure that the ARexx command parser interprets things like line continuation commas or string tokens correctly. The rat's nest of quotation marks is one small price we must pay for using typeless tokens (ARexx variables).

(continued on p.66)



1.> cli directory

Customizing Your Startup-Sequence

by Keith Cameron

1.> Boot your computer and watch that blue screen pop up announcing which version of Workbench you're running. How would you like to customize the startup-sequence so that everyone will know whose computer it is? Doing so is easy by using a few AmigaDOS commands.

When you boot your Amiga, the first activity you see is actually a CLI window executing commands contained in a script file called "startup-sequence," which is located in the 's' directory of Workbench. In order to customize the bootup operation of your computer, you must alter this script file. To do so, you need to open a CLI window. You should also be working with a backup of Workbench rather than your original copy. Once your CLI window is open, make the 's' directory your current directory. If you have read my recent articles, you will know that you need to type:

```
CD S <RETURN>
```

Once this is done, you can use your DIR command to get a listing of all the files in this directory. Their number will vary depending on the version of Workbench you're using, but every version will have a script file named "startup-sequence." This file is called a script file because it contains numerous AmigaDOS commands that are executed. The computer is programmed to search the 's' directory and execute this file upon booting. If you happen to be using version 2.0 or later of Workbench, you will work with a file called "user-startup" rather than "startup-sequence."

The instrument we will use to alter the script file is the Workbench's text editor, called ED. If you are unfamiliar with text editors, they are similar to word processors, except that they are generally less powerful and have fewer options. It is feasible, I suppose, that someone could use a text editor in place of a word processor; in fact, many people consider them word processors. However, ED is much more difficult to use. For one thing, it must be operated from the keyboard rather than from the mouse, and this slows things down from time to time. Also, its numerous commands must be memorized as there is no menu bar or other "user-friendly" mechanism. Most of the commands are executed using a combination of either the Ctrl (Control) key or the Esc (Escape) key. The manual contains a list of the many keyboard commands necessary to operate it. I have listed some of the more common ones below. For ED immediate mode commands, you hold down the Ctrl key while you press another key. These commands include the following:

Ctrl-B	Deletes a line.
Ctrl-E	Moves cursor to either the top or the bottom of the screen.
Ctrl-Y	Deletes text from the cursor to the end of the line.
Ctrl-J	Moves cursor to either the end or the start of the line the cursor is in.

Extended mode commands are more numerous and logical, but they take slightly longer to execute because more keys are involved. To execute them, first press the Esc key and release, then press another key (or keys) and release, and then hit the return. After pressing the Esc key, an asterisk will appear in the bottom left corner of the screen, indicating that ED is ready to accept the next key or keys. This key reflects the

command to be executed. For example, if you wish to delete a line, the letter "d" will be used. Thus, these commands are easier to remember. Here are some of the more useful commands, with key letters underlined.

Esc/B	Moves cursor to the <u>b</u> ottom of the text (not the screen)
Esc/BE	Marks the <u>e</u> nd of a block at the cursor.
Esc/BS	Marks the <u>s</u> tart of a block at the cursor. (Note: Marking a block is equivalent to selecting text using a mouse-driven word processor.)
Esc/CE	Moves the cursor to the <u>e</u> nd of the line. Esc/CS moves the cursor to the <u>s</u> tart of the line.
Esc/D	<u>D</u> eletes the line the cursor is in.
Esc/DB	<u>D</u> eletes the block marked with the Esc/BS and Esc/BE commands.
Esc/EL	<u>E</u> Deletes from the cursor to the <u>e</u> nd of the line.
Esc/EP	Moves to the <u>e</u> nd of the page.
Esc/EX	<u>E</u> xtends the right margin.
Esc/IB	<u>I</u> nserts a copy of the marked block, which was made using the Esc/BS and Esc/BE commands, much like the paste command on word processors.
Esc/J	<u>J</u> oins the line the cursor is in with the next line.
Esc/Q	<u>Q</u> uits ED without saving your work. If changes have been made, you will be asked to confirm whether you truly wish to quit without saving the changes.
Esc/SL *	<u>S</u> ets the <u>l</u> eft hand margin to a column indicated by a number (*).
Esc/SR *	<u>S</u> ets the <u>r</u> ight hand margin to a column indicated by a number (*).
Esc/T *	<u>S</u> ets the <u>t</u> ab to a column indicated by a number (*).
Esc/TB	Moves the cursor to the next <u>t</u> ab position.
Esc/X	<u>S</u> aves file and/or changes made and <u>e</u> xits ED.

These are not all of the commands available in ED. You can refer to your manual for more. For someone willing to learn all of the commands, I suppose ED can be quite versatile. It can perform searches, flip from upper to lower case or vice versa, and perform many other functions. It is not user-friendly nor was it intended to be. For writing script files and performing various other short tasks, however, it is more than adequate. If you wanted to make a new file, you would use the ED command along with the name of the file you wanted to create. For example, if you wanted to make a new file called MYFILE, you would type

```
ED MYFILE <RETURN>
```


After a moment, an empty screen would appear on the monitor, with only the words "Creating new file" in red letters appearing in the bottom left corner. You could then begin entering whatever text you wanted the file to contain. To open an existing file, such as the startup-sequence, you would simply type the name of that file following the ED command. (Remember that those of you using recent versions of AmigaDOS will substitute "user-startup" for "start up-sequence.") The startup-sequence for an older version of Workbench would look like this:

```
echo "A500/A2000 Workbench disk. Release 1.2 version 33.61"N"
Sys:System/FastMemFirst
BindDrivers
Addbuffers df0: 20 ;this uses up about 10K of memory, but improves
disk speed
if EXISTS sys:system
    path sys:system add
endif
if EXISTS sys:utilities
    path sys:utilities add
endif
Dir RAM:
Path RAM: add
SetMap usal
LoadWb
failat 30
SetClock >NIL: Opt load
Date
endcli > nil:
```

To customize this script file, we will use four AmigaDOS commands: ECHO, SAY, ENDCLI, and LOADWB. Let's begin with ECHO. At the top of the file, you will notice the ECHO command, followed by some text, all of which is enclosed within quotation marks. If you have read my last article, you may be able to guess the purpose of the quotation marks. Since there are spaces in the text, or string as it is more properly called, the quotation marks are needed. If there were no spaces, no marks would be necessary. The command itself serves to print the string to the output device or, as in this case, the screen. To more fully understand this command and see how it works, let's begin customizing your startup-sequence. Use the arrow keys to move the cursor to the second line of the startup-sequence. There is no reason why I selected this place other than it follows the previous ECHO command. Once the cursor is on the "S" in "Sys," hit the return once in order to create an empty space. Then move your cursor back to the beginning of that empty line. Now type the ECHO command, followed by any text that you would like to see printed to the screen. Remember to include the string in quotation marks if spaces are used. For example, you might wish to type the following:

```
ECHO "WELCOME TO KEITH'S BOOT DISK"
```

Notice, also, that there is no return at the end of the line. The purpose of a return in ED is simply to move to the next line, not execute a command as in AmigaDOS. In order to save the changes to the script, hit the escape key, then the "x" key, and finally the return key. Next time you boot your machine, you should see the text that you typed appear on the screen.

In addition to adding this string to your startup-sequence, you can also have your Amiga speak to you upon booting. Once again, open your startup-sequence using ED. Create a blank line below the ECHO command line you have just made. This time, we are going to add a string that the computer will speak. We do so by using the SAY command. Unlike the ECHO command, though, it is not necessary to use quotation marks if spaces appear in the string. Simply type the SAY command followed by any text you would like to hear. For example, you might wish to say something like this:

```
SAY WELCOME TO YOUR AMIGA
```

One thing you might notice is that some of the words are pronounced rather oddly. To correct this, you need to spell the words

phonemically, which is the way that you think they should be spelled according to how they are pronounced. Once again, be sure to save any changes you wish to make when you close ED.

Let's play around a little more with the SAY command. If you have children in your house, they may especially enjoy its capabilities. You can use SAY to speak any text or script file you may have. Type the following and see what happens:

```
SAY -X S/STARTUP-SEQUENCE <RETURN>
```

The "-X" is necessary in order to indicate that you want the contents of the file s/startup-sequence rather than simply the name of the file spoken. Without the "-X," only "s/startup-sequence" would be spoken. You can also control whether a male or female voice is used, the speed at which the script is spoken, and the pitch. If you want a male voice, type "-M" after the command. If you want a female voice, type "-F". You can vary the speed by typing "-S" followed by a number ranging from 40 to 400, with 400 being the fastest. Be sure that you leave no space between the letter and the number. Type "-P" followed by a number ranging from 65 to 320 to set the pitch, with 320 being the highest pitch. If you want a robot voice, type "-R"; if you prefer a natural voice, type "-N" instead. A typical command line might look something like this:

```
SAY -M -S350 -P75 -X SCRIPTFILE <RETURN>
```

Play around and discover various ways to utilize this entertaining command. If my recent articles have led you to use the CLI more, you may want to customize your Workbench even further. While you have the startup-sequence open, remove "loadwb" and "endcli > nil:". To do so, refer to the ED commands presented earlier. Deleting this line will make you a serious CLI user, for the LOADWB command tells AmigaDOS to load Workbench. If that command is missing, you will have no Workbench icon whatsoever; the Workbench menu bar will also be unavailable. Therefore, you are forced to use the CLI. I must admit, though, that I leave this line in my command sequence, for there are many times when I do want to use Workbench. The other line tells the CLI window to close so that control is given to Workbench. By removing it, the CLI window remains open ready for use. Some time is saved because you don't have to open any windows to get to the CLI icon to open a CLI window. For users with limited RAM, this is useful because some memory is saved by bypassing any windows that you might need to open in order to get to the CLI icon. On a typical Workbench disk, this amount could be as much as 30K, which is a substantial amount when you only have 512K of RAM to begin with. I have removed this line from my startup-sequence so that the CLI window is the active one upon booting. Then, if I want to use Workbench or another disk, I simply use the front-to-back and resize gadgets and leave the CLI window open in case I want to use it later. Then, when I am ready to use it, it is available with the click of a mouse. If you have a frequently used program, such as a word processor, on a self-booting disk, you might want to further customize your startup-sequence. Near the bottom of the commands in the startup-sequence, type in a RUN command along with the name of the program. For example, if you have a program like *Scribble!* on a self-booting disk, you would type:

```
RUN SCRIBBLE!
```

This, of course, assumes that *Scribble!* is in the root directory of the boot disk. Now when you insert the disk, Workbench will be bypassed and you will go straight into the word processor without lifting a finger. It takes a little longer for the disk to boot because the word processor is opened, but, overall, time is saved. Some RAM is also saved, for the icons in the windows which would have been opened from Workbench are once again avoided. If you want to run a clock upon booting your disk, you can do that as well. Only the amount of RAM which you have limits the number of programs you can run from your startup-sequence upon booting. In an article I wrote last year, I urged users to run a mouse accelerator, a screen blanker, and a virus checker if space allowed. A mouse accelerator speeds up the movement

(continued on p. 87)



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Environment Variables

The programs use environment variables rather than passing arguments all over the place. The program `guiTerm.rexx` terminates all processes and gets rid of these environment variables. The main screen calls either `guiSPO.rexx` (from the top gadget) or `guiSPD.rexx` (lower gadget) to set up and interlock other gadgets for further operations. The program `guiAdds.rexx` makes the gadgets that set the environment variables of our target screen format and the Y Overscan, etc. It also makes the "EXECUTE" gadget that calls the program that does the work in ADPro: `guiEX.rexx`. The upper bank of four gadgets is created by `guiSPO.rexx` itself called by the top gadget created by the main screen program `F2.adpro`. These all pass their arguments to `guiStartScOnly.rexx`, which takes care of more interlocks, launching `guiScalePixAsp.rexx` with appropriate arguments to scale to pixel aspect in ADPro. In `guiEX.rexx`, I used two, 2-D transformation matrices `WX` and `HY`, and absolute scaling instead of percent scaling to insure exact pixel counts. Gadgets that are not used are "removed" and/or turned off by the "interlocks." The environment variables `G`, `H`, and `gad` are used to tell the programs if the top, the middle, or the bottom gadgets have yet been made. The interlocks at each level use these to make choices.

Operation

In ADPro, press F2 to launch the programs. If you already have another `F2.adpro` program, then you may safely rename mine. If you use System 1.3, and a non-interlaced Workbench, then a custom screen will open with the window. If you use System 2.0, then you'll get a full sized Workbench window. Select the top gadget to scale to pixel aspect only, and click on the lower gadget to scale to screen size and optionally change pixel aspects, too. Each of these gadgets opens another group of gadgets from which to select. Fig. 4 shows the screen with all gadgets opened. The lower gadgets look for rendered data, so they know what kind of image you want. If you forgot to render, a requester asks if you want to "Smart Render," an option which will attempt to guess a screen format based on pixel aspect. To render it manually, exit. The gadgets change their highlights, indicating which data is in the environment variables. They also lock out gadgets not to be used. The "Y Overscan" gadget lets you choose +15% or +20% Y overscan. To keep image aspect, the default, 15% is the best choice. To fill the screen with a 640x400 image in overscan at 736x480, choose "Fill Screen" 20% Y Overscan. The image stretches 5% in the Y direction, filling the screen. In video, the stretch will not be noticeable, but a bottom border would be. The "Help" gadget calls up some useful image information for Amiga screens. The logo code is commented out, since you can't copy an IFF file in a magazine, but you may include an IFF file (from a brush) in this way. Fig. 4 shows the interface (with logo) ready to scale your images. Now you can take Vinnie's video of Vicky and truly render to seize her!

Listing One

```
/* F2.adpro GUI for guiEX.rexx */
/* see note in guiEX.rexx */

OPTIONS RESULTS

/* flag for message window */
flag=0

/* if our window is there, post the latest info */
IF SHOW('P','SCALEHOST') THEN DO
    CALL guiPostMsg.rexx
    flag=1
END

/* setup Loads libraries */

libs.1='rexxsupport.library'
/* extended functions (DOS,etc.) */

libs.2='rexxarplib.library'
/* intuition, windows, gadgets */

DO i=1 TO 2
    IF -SHOW('L',libs.i) THEN CALL ADDLIB(libs.i,0,-30,0)
    IF -SHOW('L',libs.i) THEN EXIT 20
END
```

```
/* set a default env variable */
CALL SETENV(YOSET,1.15)

/* put ADPro to back */
ADDRESS "ADPro" ADPRO_TO_BACK

/*
** Check for big enough screen;
** if screen too small (i.e. WB1.3) then
** we will open a custom public screen "APS".
** Otherwise we'll use the interlaced WB
** for our SCALEHOST (the port name) window.
*/

row=SCREENROWS('Workbench')
col=SCREENCOLS('Workbench')
lace=SCREENLACE('Workbench')
IF (row<400|col<640|lace=0) THEN DO
    RESULT=OPENSREEN(,"HIRES" "LACE",,
        "ADPro Scale Utility V1.0","APS",,640,,)
    END

/*
** Create our very own host application.
** We should use the asynchronous "AREXX" port.
** This window GETS its messages thru "SCALEHOST".
** This window SENDS its messages to "REXX".
** This window tries to open on public screen "APS".
** If it cannot, it opens on the "Workbench" screen.
*/
ADDRESS AREXX "CALL CreateHost("SCALEHOST","REXX",APS)"

/* wait for our new port to come on line */
WAITFORPORT "SCALEHOST"

/* Amiga Intuition parameters for the window and gads */
/* for gads */

idcmp="CLOSEWINDOW GADGETUP MENUPIK"

/* for window */

flags="NOCAREREFRESH WINDOWCLOSE WINDOWDRAG",
" WINDOWDEPTH WINDOWIZING SIZEBOTTOM ACTIVATE"

/* open the window with the parameters we want */
CALL OPENWINDOW("SCALEHOST",0,11,640,389,idcmp,flags,,
"F2.ADPro: Select a Scaling Operation...")

/* what to do if we click on the closewindow gad */
CALL MODIFYHOST(SCALEHOST,CLOSEWINDOW,"CALL guiTerm.rexx")

/*
** Add the primary gadgets to the window.
** If the gad is clicked, the last string is sent to "REXX".
** Here, they are calls to the other programs.
*/

CALL ADDGADGET("SCALEHOST",10,370,"EXIT",,
" EXIT ",,"CALL guiTerm.rexx")

CALL ADDGADGET("SCALEHOST",275,125,"REN",,
" IMAGE INFO ",,"CALL guiPostMsg.rexx")

CALL ADDGADGET("SCALEHOST",400,125,"HELP",,
" HELP ",,"CALL guiHELP.rexx")

/* post the image info on the window */
IF flag=0 THEN CALL guiPostMsg.rexx

CALL ADDGADGET("SCALEHOST",10,20,"SPIX",,
" SCALE: To Pixel Aspect Only ",,
"CALL guiSPO.rexx")

CALL ADDGADGET("SCALEHOST",10,125,"SPAD",,
" SCALE: Raw & Rendered Data ",,
"CALL guiSPD.rexx")

/* set the defaults for the environment vars */
CALL SETENV(gad,0)
CALL SETENV(G,0)
CALL SETENV(H,0)

EXIT 0
```

Listing Two

```
/* guiAdds.rexx add gadgets for gui f2.adpro */
OPTIONS RESULTS

/* have we made these before? */
IF GETENV(gad) THEN EXIT 0

CALL ADDGADGET("SCALEHOST",10,250,"HR",,
" High Res ",,
"RESULT=SETENV(xpix,640);",
"CALL SETGADGET(SCALEHOST,LR,OFF);",
"CALL SETGADGET(SCALEHOST,HR,ON)")
    CALL ADDGADGET("SCALEHOST",120,250,"LR",,
" Low Res ",,
"RESULT=SETENV(xpix,320);",
"CALL SETGADGET(SCALEHOST,LR,ON);",
"CALL SETGADGET(SCALEHOST,HR,OFF)")
```



```
CALL ADDGADGET("SCALEHOST",10,270,"IL",,
" Interlace ",,
"RESULT=SETENV(L,2);",
"CALL SETGADGET(SCALEHOST,IL,ON);",
"CALL SETGADGET(SCALEHOST,NL,OFF)");

CALL ADDGADGET("SCALEHOST",120,270,"NL",,
" Non Intl ",,
"RESULT=SETENV(L,1);",
"CALL SETGADGET(SCALEHOST,IL,OFF);",
"CALL SETGADGET(SCALEHOST,NL,ON)");

CALL ADDGADGET("SCALEHOST",10,290,"ST",,
" Standard ",,
"RESULT=SETENV(OS,0);",
"CALL SETGADGET(SCALEHOST,ST,ON);",
"CALL SETGADGET(SCALEHOST,OS,OFF)");

CALL ADDGADGET("SCALEHOST",120,290,"OS",,
" Overscan ",,
"RESULT=SETENV(OS,1);",
"CALL SETGADGET(SCALEHOST,ST,OFF);",
"CALL SETGADGET(SCALEHOST,OS,ON)");

/* note how to pass mouse coordinates %x and %y */
CALL ADDGADGET("SCALEHOST",120,310,"YOSET",,
" Y Ovrscan ",,
"CALL guiSetYOSET.rexx %x %y");

/* set our environment variables */
"CALL SETENV(YOSET,1.15)"
"CALL SETENV(gad,1)"
"CALL SETENV(xpix,640)"
"CALL SETENV(L,2)"
"CALL SETENV(OS,0)"
/* interlock to set gads on and off */
"CALL SETGADGET(SCALEHOST,HR,ON)"
"CALL SETGADGET(SCALEHOST,IL,ON)"
"CALL SETGADGET(SCALEHOST,ST,ON)"

EXIT 0
```

Listing Three

```
/*
guiEX.rexx This ARexx program scales according to the pixel
aspect entered by the user in the gui F2.adpro. Its main purpose
is to properly scale images scanned by an Epson ES-300C which uses
square (1:1) pixels.
```

This program allows you to re-scale at a pixel aspect suitable for the final destination of the image: DPaintIV, DCTV, etc. The 1:1 images are too tall and skinny if not rescaled.

If an Amiga screen format is chosen, then the program scales to fit the screen using the pixel aspects and Amiga Screen formats. You may scale between screen size as well without distortion to convert between screen formats and/or overscan.

*** WARNING: THIS PROGRAM ALTERS YOUR IMAGE DATA! ***

The pixel aspects in the requesters are the ones supported directly: For (X=High Resolution : Y=Interlaced), DPaintIV uses a 10:11 pixel aspect. ADPro recommends 22:26. DCTV overscan images use 69:80. The X and Y values are automatically input as double the above values to represent Low Res and Non-Interlaced, respectively. You may enter your own pixel aspects in the (pick) requester if you wish to scale to your own custom aspect.

Y Overscan: Use the "Keep Image Aspect" choice for most of your images. If you want to fill the screen with a "normal" image in 640x400 using overscan, then select the "20% Fill Screen" option with the "Y Overscan" gadget. The image will "stretch" 5% in the Y direction, but it will fill the screen, useful for video work. In most cases the stretch is not noticeable.

Author: Merrill Callaway (c) 1992

*/

OPTIONS RESULTS

```
/* get the mouse coordinates */
PARSE ARG mx my .
```

```
ADDRESS "ADPro"
/* retrieve our environment variables */
stype=GETENV(stype) /* screen type */
xpix=GETENV(xpix) /* Hi res or Low res? */
L=GETENV(L) /* Interlace? */
OS=GETENV(OS) /* Overscan? */
dx=GETENV(dx) /* new X Pixel Aspect */
dy=GETENV(dy) /* new Y Pixel Aspect */
xaspect=GETENV(xaspect) /* old pixel aspects... */
yaspect=GETENV(yaspect)
W=GETENV(xwide) /* image width and height */
H=GETENV(yhigh)
```

```
sco=GETENV(SCO) /* scale display only? */
YOSET=GETENV(YOSET) /* Y Overscan percent factor */
```

```
/* look for rendered data and act accordingly */
IF DATATYPE(stype)~='NUM' THEN DO
answer=REQUEST(mx-15,my-45,,
"No RENDERED data to scale!",," Smart Render/Scale ", Exit ",APS)
IF answer="" THEN DO
CALL guiTerm.rexx
EXIT 0
END
SELECT
```

```
WHEN (xaspect/yaspect) > 1.1 THEN DO
xpix=320
L=2
CALL SETENV(xpix,320)
CALL SETENV(L,2)
CALL SETGADGET(SCALEHOST,LR,ON)
CALL SETGADGET(SCALEHOST,HR,OFF)
CALL SETGADGET(SCALEHOST,IL,ON)
CALL SETGADGET(SCALEHOST,NL,OFF)
END
WHEN (xaspect/yaspect) < 0.5 THEN DO
xpix=640
L=1
CALL SETENV(xpix,640)
CALL SETENV(L,1)
CALL SETGADGET(SCALEHOST,LR,OFF)
CALL SETGADGET(SCALEHOST,HR,ON)
CALL SETGADGET(SCALEHOST,IL,OFF)
CALL SETGADGET(SCALEHOST,NL,ON)
END
OTHERWISE DO
xpix=640
L=2
CALL SETENV(xpix,320)
CALL SETENV(L,2)
CALL SETGADGET(SCALEHOST,LR,OFF)
CALL SETGADGET(SCALEHOST,HR,ON)
CALL SETGADGET(SCALEHOST,IL,ON)
CALL SETGADGET(SCALEHOST,NL,OFF)
END
END /* SELECT */
END
```

```
/* use in test later */
```

```
Xwid=W
Yhi=H
```

```
/* dealing with overscan */
```

```
OX=1
OY=1
Y=200*L
IF OS=1 THEN DO
OX=1.15
OY=YOSET
Y=Y*1.2
END
```

```
/* scaling math & tests */
```

```
X=xpix*OX
A=(yaspect/xaspect)*(dx/dy)
IF dx/dy=xaspect/yaspect THEN A=1
IF SCO=1 THEN A=1
```

```
/* screen size goal */
```

```
SELECT
WHEN X=320 & Y=200 THEN DO
sto=0
rentype=32
END
WHEN X=640 & Y=200 THEN DO
sto=1
rentype=16
END
WHEN X=320 & Y=400 THEN DO
sto=2
rentype=32
END
WHEN X=640 & Y=400 THEN DO
sto=3
rentype=16
END
WHEN X=368 & Y=240 THEN DO
sto=24
rentype=32
END
WHEN X=736 & Y=240 THEN DO
sto=25
rentype=16
END
WHEN X=368 & Y=480 THEN DO
sto=26
```



```

        rentype=32
        END
        WHEN X=736 & Y=480 THEN DO
            sto=27
            rentype=16
            END
        OTHERWISE DO
            EXIT 20
            END
        END

/* how to render if there wasn't any screen type */
IF DATATYPE(stype)~='NUM' THEN stype=sto

/* transformation matrices */
/* initialize */
WX.=1
HY.=1
WX.0.0 =1
HY.0.0 =A
WX.0.1 =2
HY.0.1 =A
WX.0.2 =1
HY.0.2 =2*A
WX.0.3 =2
HY.0.3 =2*A
WX.0.24=1.15
HY.0.24=OY*A
WX.0.25=2.3
HY.0.25=OY*A
WX.0.26=1.15
HY.0.26=2.4*A
WX.0.27=2.3
HY.0.27=2.4*A
WX.1.0 =0.5
HY.1.0 =A
WX.1.1 =1
HY.1.1 =A
WX.1.2 =0.5
HY.1.2 =2*A
WX.1.3 =1
HY.1.3 =2*A
WX.1.24=0.575
HY.1.24=OY*A
WX.1.25=1.15
HY.1.25=OY*A
WX.1.26=0.575
HY.1.26=2.4*A
WX.1.27=1.15
HY.1.27=2.4*A
WX.2.0 =1
HY.2.0 =0.5*A
WX.2.1 =2
HY.2.1 =0.5*A
WX.2.2 =1
HY.2.2 =A
WX.2.3 =2
HY.2.3 =A
WX.2.24=1.15
HY.2.24=0.6*A
WX.2.25=2.3
HY.2.25=0.6*A
WX.2.26=1.15
HY.2.26=OY*A
WX.2.27=2.3
HY.2.27=1.15*A
WX.3.0 =0.5
HY.3.0 =0.5*A
WX.3.1 =1
HY.3.1 =0.5*A
WX.3.2 =0.5
HY.3.2 =A
WX.3.3 =1
HY.3.3 =A
WX.3.24=0.575
HY.3.24=0.6*A
WX.3.25=1.15
HY.3.25=0.6*A
WX.3.26=0.575
HY.3.26=OY*A
WX.3.27=1.15
HY.3.27=OY*A

/* make some variables to use...*/
B=1/1.15
C=1/.575
D=1/OY
E=1/.6
F=1/2.3
G=1/2.4

WX.24.0 =B
HY.24.0 =D*A
WX.24.1 =C
HY.24.1 =D*A

WX.24.2 =B
HY.24.2 =E*A
WX.24.3 =B
HY.24.3 =E*A
WX.24.24=1
HY.24.24=A
WX.24.25=2
HY.24.25=A
WX.24.26=1
HY.24.26=2*A
WX.24.27=2
HY.24.27=2*A
WX.25.0 =F
HY.25.0 =D*A
WX.25.1 =B
HY.25.1 =D*A
WX.25.2 =F
HY.25.2 =E*A
WX.25.3 =B
HY.25.3 =E*A
WX.25.24=0.5
HY.25.24=A
WX.25.25=1
HY.25.25=A
WX.25.26=0.5
HY.25.26=2*A
WX.25.27=1
HY.25.27=2*A
WX.26.0 =B
HY.26.0 =G*A
WX.26.1 =C
HY.26.1 =G*A
WX.26.2 =B
HY.26.2 =D*A
WX.26.3 =C
HY.26.3 =D*A
WX.26.24=1
HY.26.24=0.5*A
WX.26.25=2
HY.26.25=0.5*A
WX.26.26=1
HY.26.26=A
WX.26.27=2
HY.26.27=A
WX.27.0 =F
HY.27.0 =G*A
WX.27.1 =B
HY.27.1 =G*A
WX.27.2 =F
HY.27.2 =B*A
WX.27.3 =B
HY.27.3 =D*A
WX.27.24=0.5
HY.27.24=0.5*A
WX.27.25=1
HY.27.25=0.5*A
WX.27.26=0.5
HY.27.26=A
WX.27.27=1
HY.27.27=A

/* transform */
H=H*HY.stype.sto
W=W*WX.stype.sto

/* scale to screen (see Fig 2) */
Y0=(X/W)*H
X0=(W/H)*Y
IF X0 > X THEN Y=Y0
IF Y0 > Y THEN X=X0

/* see if we really need to act */
IF dx=xaspect & dy=yaspect & X=Xwid & Y=Yhi THEN DO
    CALL REQUEST(120,320,,
    "No differences to scale/aspect!",," Resume ",,APS)
    EXIT 0
    END

/* do it in ADPro */
ADPRO_TO_FRONT
ABS_SCALE X Y
IF SCO=1 THEN OPERATOR "DEFINE_PXL_ASPECT" dx dy
ELSE OPERATOR "DEFINE_PXL_ASPECT" xaspect yaspect
SCREEN_TYPE sto
RENDER_TYPE rentype
EXECUTE
ADPRO_DISPLAY
ADPRO_UNDISPLAY
ADPRO_TO_BACK
ADDRESS SCALEHOST WINDOWTOFRONT
CALL guiPostMsg.rexx
EXIT 0

```


Listing Four

```

/* guiHELP.rexx posts adpro image info gui f9.adpro */
OPTIONS RESULTS

/* to add a logo, make one as a brush and then */
/* put the path name in here where Rexx:guiPIC.iff is */
/* uncomment to make your logo appear in the window */

/*
CALL IFFImage("SCALEHOST",,
"Rexx:guiPIC.iff",400,20,,)
*/

CALL POSTMSG()
/* set the gadgets ON and OFF */
CALL SETGADGET(SCALEHOST,REN,OFF)
CALL SETGADGET(SCALEHOST,HELP,ON)

/* put the message in our window */
CALL POSTMSG(275,155,,
"SCREEN FORMAT (pixels) wide high val",
"-----")
"\\Low Resolution: X = 320 0",
"\\Overscan: X+15% = 368 8",
"\\High Resolution: X = 640 1",
"\\Overscan: X+15% = 736 8",
"\\Non-Interlace: Y = 200 0",
"\\Full Overscan: Y+20% = 240 16",
"\\Keep Asp Oscan: Y+15% = 230 16",
"\\Interlace: Y = 400 2",
"\\Full Overscan: Y+20% = 480 16",
"\\Keep Asp Oscan: Y+15% = 460 16",
"\\-----",
"\\Top gadget: scale to pix asp only.",
"\\Mid gadget: pix asp AND/OR screen.",
"\\-----",
"\\EXECUTE button scales according to",
"\\lower highlighted gads. Sum of vals",
"\\equals screen type. ",APS)

EXIT 0

```

Listing Five

```

/* guiMakeVar.rexx make up variables for gui f2.adpro */
OPTIONS RESULTS
PARSE ARG N X Y, mx my
SELECT
WHEN N = 'C' THEN str = 'C P A D O'
WHEN N = 'P' THEN str = 'P C A D O'
WHEN N = 'A' THEN str = 'A P C D O'
WHEN N = 'D' THEN str = 'D C P A O'
OTHERWISE str = 'O D C A P'
END

PARSE VAR str C P A D O .

IF C='C' THEN X=REQUEST(mx,my,"Enter X-Aspect",1,OKAY,CANCEL,APS)
IF C='C' & X=' ' THEN Y=REQUEST(my,my,"Enter Y-Aspect",1,OKAY,CANCEL,APS)
IF X=' ' | Y=' ' THEN DO
CALL SETGADGET(SCALEHOST,PC,OFF)
EXIT 0
END

"CALL SETGADGET(SCALEHOST,P'C',ON)"
"CALL SETGADGET(SCALEHOST,P'P',OFF)"
"CALL SETGADGET(SCALEHOST,P'A',OFF)"
"CALL SETGADGET(SCALEHOST,P'D',OFF)"
"CALL SETGADGET(SCALEHOST,P'O',OFF)"

CALL SETENV(dx,X)
CALL SETENV(dy,Y)
IF N='O' THEN R=SETENV(SCO,1);ELSE R=SETENV(SCO,0)
EXIT 0

```

Listing Six

```

/* guiPostMsg.rexx posts adpro image info */
/* in its own window on SCALEHOST window */

OPTIONS RESULTS

/* to add a logo, make one as a brush and then */
/* put the path name in here where Rexx:guiPIC.iff is */
/* uncomment the following for inserting a logo... */
/*
CALL IFFImage("SCALEHOST",,
"Rexx:guiPIC.iff",400,20,,)
*/

CALL POSTMSG()
CALL SETGADGET(SCALEHOST,REN,ON)
CALL SETGADGET(SCALEHOST,HELP,OFF)

IF -SHOW('P','ADPro') THEN,
CALL POSTMSG(275,155,"ADPro is not running",APS)

ADDRESS "ADPro"

```

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```

/* find out what kind of image we have... */
IMAGE_TYPE
itype=ADPRO_RESULT
IF (ADPRO_RESULT = "NONE") | (ADPRO_RESULT = "BITPLANE") THEN DO
RESULT=REQUEST(10,50,"No Image Data to Scale!",,"Resume",APS)
CALL guiTerm.rexx
EXIT 0
END

IF FIND(itype,BITPLANE)=0 THEN rend=0

LAST_LOADED_IMAGE
IF RC=0 THEN lli=ADPRO_RESULT;ELSE lli='none'

LAST_SAVED_IMAGE
IF RC=0 THEN lsi=ADPRO_RESULT;ELSE lsi='none'

SCREEN_TYPE
IF RC=0 & rend=0 THEN styp=ADPRO_RESULT;ELSE styp='no rendered data'

/* make string to display in message window */
SELECT
WHEN styp=0 THEN stext='LoRes, Non-Interlace'
WHEN styp=1 THEN stext='HiRes, Non-Interlace'
WHEN styp=2 THEN stext='LoRes, Interlace'
WHEN styp=3 THEN stext='HiRes, Interlace'
WHEN styp=24 THEN stext='Ovrscan X&Y, LoRes, Non-Interlace'
WHEN styp=25 THEN stext='Ovrscan X&Y, HiRes, Non-Interlace'
WHEN styp=26 THEN stext='Ovrscan X&Y, LoRes, Interlace'
WHEN styp=27 THEN stext='Ovrscan X&Y, HiRes, Interlace'
OTHERWISE stext='(see page 369)'
END

RENDER_TYPE
IF RC=0 & rend=0 THEN ren=ADPRO_RESULT;ELSE ren='no rendered data'

OPERATOR "DEFINE_PXL_ASPECT"
IF RC=0 THEN dpaline=ADPRO_RESULT;ELSE dpaline='none'

PARSE VAR dpaline Xasp Yasp Xres Yres width height

ADDRESS "SCALEHOST"
/* set environment variables for use by other pgms */
RESULT=SETENV(Xasp,Xasp)
RESULT=SETENV(Yasp,Yasp)
RESULT=SETENV(Xres,Xres)
RESULT=SETENV(Yres,Yres)
RESULT=SETENV(width,width)
RESULT=SETENV(height,height)
RESULT=SETENV(styp,styp)
YOSET=GETENV(YOSET)
IF YOSET=1.15 THEN t='15% Y Overscan: Keep Image Aspect'
IF YOSET=1.2 THEN t='20% Y Overscan: Fill Screen'

/* post the message in the window */

```



```

/* get the quotes exactly right! */
CALL POSTMSG(275,155,"Last Loaded Image:
\ \Last Saved Image:\lsl,
\ \Image Type:\itype,
\ \Screen Type:\styp: "stext,
\ \Render Type:\ren"-color",
\ \Pixel Aspect X:Y = "Xasp":Yasp,
\Resolution (X by Y): "Xres" by "Yres,
\Width = "width" Height ="height,
\ \t,APS)

EXIT 0

```

Listing Seven

```

/*
guiScalePixAsp.rexx This ARExx program scales according to the
pixel aspect entered by the user in the gui F2.adpro. Its main
purpose is to properly scale images scanned by an Epson ES-300C which
uses square (1:1) pixels.

```

This program allows you to re-scale at a pixel aspect suitable for the final destination of the image: DPaintIV, DCTV, etc. The 1:1 images are too tall and skinny if not rescaled.

*** WARNING: THIS PROGRAM ALTERS YOUR IMAGE DATA! ***

Author: Merrill Callaway (c) 1992

```

/*
OPTIONS RESULTS
ADDRESS "ADPro"
/* get the mouse coords, the new aspect X and Y */
PARSE ARG mx my dx dy .

/* get the rest from the environment */
xaspect=GETENV(Xaspect)
yaspect=GETENV(Yaspect)
W=GETENV(xwide)
H=GETENV(yhigh)

/* if no need to act...*/
IF (dx=xaspect & dy=yaspect) THEN DO
ADPRO_TO_BACK
answer=REQUEST(mx,my,,
"Requested Pixel Aspect same as Data!",, " Resume ", " Exit ",APS)
IF answer="" THEN DO
CALL guiTerm.rexx
EXIT 0
END
IF answer='OKAY' THEN EXIT 0
END

/* scaling math */
Xm=(xaspect/xaspect)
Ym=1

IF dx > dy THEN DO
Xm=(dx/dy)*(yaspect/xaspect)
END
ELSE DO
Xm=(xaspect/yaspect)*(dy/dx)
END
IF Xm<1 THEN DO
Ym=1/Xm
Xm=1
END

X=Xm*W
Y=Ym*H
N=0

SCALE: /* label clause for go to */
ABS_SCALE X Y
/* if not enough memory, then scale down */
/* try three times and then exit w/ error */
IF RC ~= 0 THEN DO
IF N>3 THEN DO
ADPRO_TO_BACK
r=REQUEST(mx,my,,
"Scale Failed!!",, " Resume ", " Exit ",APS)
IF r="" THEN DO
CALL guiTerm.rexx
EXIT 0
END
IF r='OKAY' THEN EXIT 0
END
X=TRUNC((.75*X)+0.5)
Y=TRUNC((.75*Y)+0.5)
N=N+1
SIGNAL SCALE /* go to SCALE: */
END

/* if scaling went OK clean up and redefine the Pix asp */
IF RC = 0 THEN DO
OPERATOR DEFINE_PXL_ASPECT dx dy
END
ADPRO_TO_BACK
EXIT 0

```

Listing Eight

```

/* guiSetYOSET.rexx requester for setting YOSET */
OPTIONS RESULTS

/* find mouse coords */
PARSE ARG mx my .

/* put up requester */
X=REQUEST(mx,my,"Set %Y-Overscan",,,
" 15% Keep Aspect ", " 20% Fill Screen ",APS)

/* deal with result string */
IF X="OKAY" THEN CALL SETENV(YOSET,1.15)
ELSE CALL SETENV(YOSET,1.2)

Y=GETENV(YOSET)
IF Y=1.15 THEN t='15% Y Overscan: Keep Image Aspect'
IF Y=1.2 THEN t='20% Y Overscan: Fill Screen'

/* put the changes in the message window */
/* notice the syntax \ for skipping lines */

CALL POSTMSG(,, "////////////////////t,APS)

EXIT 0

```

Listing Nine

```

/* guiSPD.rexx scale pixels and display gui for f2.adpro */
OPTIONS RESULTS

/* interlock to turn gads on and off */
CALL SETGADGET(SCALEHOST,SPAD,ON)
CALL SETGADGET(SCALEHOST,SPIX,OFF)

/* MAKE H GADGETS */
/* note the way we pass arguments to the */
/* pgm that makes the variables */

CALL ADDGADGET("SCALEHOST",10,145,"PC",,
" SCALE: (pick) X:Y ",,
"CALL guiMakeVar.rexx "C",%x %y")

CALL ADDGADGET("SCALEHOST",10,160,"PP",,
" SCALE: (DPaintIV) 10:11 ",,
"CALL guiMakeVar.rexx "P" 10 11")

CALL ADDGADGET("SCALEHOST",10,175,"PA",,
" SCALE: (ADPro) 22:26 ",,
"CALL guiMakeVar.rexx "A" 22 26")

CALL ADDGADGET("SCALEHOST",10,190,"PD",,
" SCALE: (DCTV) 69:80 ",,
"CALL guiMakeVar.rexx "D" 69 80")

CALL ADDGADGET("SCALEHOST",10,205,"PO",,
" SCALE: Display Only ",,
"CALL guiMakeVar.rexx "O" GETENV(xaspect) GETENV(yaspect)")

CALL ADDGADGET("SCALEHOST",120,370,"EX",,
" EXECUTE ",,
"CALL guiEX.rexx %x %y")

"CALL guiMakeVar.rexx "O" GETENV(xaspect) GETENV(yaspect)"

/* tell the environment we have made these gads */
CALL SETENV(H,1)

/* interlock */
/* removing a gad makes it inoperative */
IF GETENV(G)=1 THEN DO

CALL SETGADGET(SCALEHOST,SDOC,OFF)
CALL SETGADGET(SCALEHOST,SDOP,OFF)
CALL SETGADGET(SCALEHOST,SDOA,OFF)
CALL SETGADGET(SCALEHOST,SDOD,OFF)

CALL REMOVEGADGET(SCALEHOST,"SDOC")
CALL REMOVEGADGET(SCALEHOST,"SDOP")
CALL REMOVEGADGET(SCALEHOST,"SDOA")
CALL REMOVEGADGET(SCALEHOST,"SDOD")
END

/* make the rest of the gads */
CALL guiAddons.rexx

EXIT 0

```

Listing Ten

```

/* guiSPD.rexx scale pixels only GUI F2.adpro */
/* makes the four scale gads for the top screen gad */

OPTIONS RESULTS

/* interlock */
CALL SETGADGET(SCALEHOST,SPIX,ON)

/* make gad and pass args in the pgm call */
CALL ADDGADGET("SCALEHOST",10,40,"SDOC",,
" SCALE: Pixel aspect only (pick) X:Y ",,
"CALL guiStartScOnly.rexx ,%x %y")

```



```

CALL ADDGADGET("SCALEHOST",10,55,"SDOP",,
" SCALE: Pixel aspect only (DPaintIV) 10:11 ",,
"CALL guiStartScOnly.rexx 10 11,%x %y")

CALL ADDGADGET("SCALEHOST",10,70,"SDOA",,
" SCALE: Pixel aspect only (ADPro) 22:26 ",,
"CALL guiStartScOnly.rexx 22 26,%x %y")

CALL ADDGADGET("SCALEHOST",10,85,"SDOD",,
" SCALE: Pixel aspect only (DCTV) 69:80 ",,
"CALL guiStartScOnly.rexx 69 80,%x %y")

/* tell the environment we have made these gads */
CALL SETENV(G,1)
CALL SETENV(gad,0)

/* interlock & disable gads we should not use */
IF GETENV(H)=1 THEN DO
CALL SETGADGET (SCALEHOST,SPAD,OFF)

CALL SETGADGET (SCALEHOST,PC,OFF)
CALL SETGADGET (SCALEHOST,PP,OFF)
CALL SETGADGET (SCALEHOST,PA,OFF)
CALL SETGADGET (SCALEHOST,PD,OFF)
CALL SETGADGET (SCALEHOST,PO,OFF)

CALL REMOVEGADGET (SCALEHOST,"PC")
CALL REMOVEGADGET (SCALEHOST,"PP")
CALL REMOVEGADGET (SCALEHOST,"PA")
CALL REMOVEGADGET (SCALEHOST,"PD")
CALL REMOVEGADGET (SCALEHOST,"PO")

CALL SETGADGET (SCALEHOST,HR,OFF)
CALL SETGADGET (SCALEHOST,LR,OFF)
CALL SETGADGET (SCALEHOST,IL,OFF)
CALL SETGADGET (SCALEHOST,NL,OFF)
CALL SETGADGET (SCALEHOST,OS,OFF)
CALL SETGADGET (SCALEHOST,ST,OFF)

CALL REMOVEGADGET (SCALEHOST,"HR")
CALL REMOVEGADGET (SCALEHOST,"LR")
CALL REMOVEGADGET (SCALEHOST,"IL")
CALL REMOVEGADGET (SCALEHOST,"NL")
CALL REMOVEGADGET (SCALEHOST,"OS")
CALL REMOVEGADGET (SCALEHOST,"ST")
CALL REMOVEGADGET (SCALEHOST,"EX")
CALL REMOVEGADGET (SCALEHOST,"YOSET")
END

```

EXIT 0

Listing Eleven

```

/* StartScOnly.rexx an external function for GUI to ADPro scaling */
/* called from SPO.rexx to turn on and off gadgets */

OPTIONS RESULTS

/* get the info in two arguments: X & Y, mouse coords */
PARSE ARG X Y, mx my

/* logic to figure out what to turn on or off */
SELECT
WHEN X = '' THEN str= 'C P A D'
WHEN X = 10 THEN str= 'P C A D'
WHEN X = 22 THEN str= 'A P C D'
WHEN X = 69 THEN str= 'D C P A'
OTHERWISE NOP
END

PARSE VAR str C P A D .

IF C='C' THEN X=REQUEST(mx,my,"Enter X-Aspect",1,OKAY,CANCEL,APS)
IF C='C' & X='' THEN Y=REQUEST(mx,my,,
"Enter Y-Aspect",1,OKAY,CANCEL,APS)
IF X=''|Y='' THEN DO
CALL SETGADGET (SCALEHOST,SDOC,OFF)
EXIT 0
END

/* interlock based on above logic */

"CALL SETGADGET (SCALEHOST,SDO"C",ON)"
"CALL SETGADGET (SCALEHOST,SDO"P",OFF)"
"CALL SETGADGET (SCALEHOST,SDO"A",OFF)"
"CALL SETGADGET (SCALEHOST,SDO"D",OFF)"

/* watch it work in ADPro */
ADDRESS 'ADPro'
ADPRO_TO_FRONT
/* call the pgm to do the scaling in ADPro */
CALL guiScalePixAsp.rexx mx my X Y
/* post the results */

/* clear the old */
CALL POSTMSG()

/* post the new */
CALL guiPostMsg.rexx
/* back to our window */
CALL SCREENTOFRONT (APS)
EXIT 0

```

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Listing Twelve

```

/* guiTerm.rexx terminate gui for f9.adpro */
ADPRO to front /* IF SHOW('P','ADPro') THEN DO
ADDRESS 'ADPro'
ADPRO_TO_FRONT
END

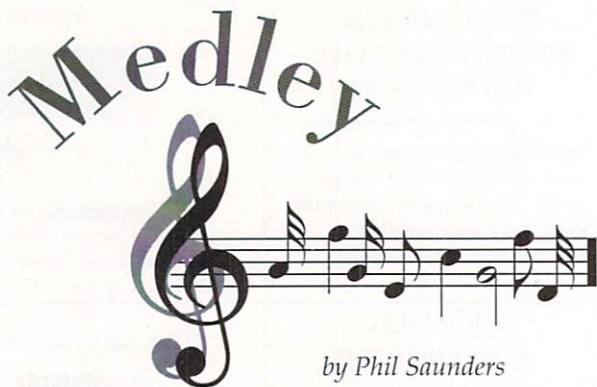
/* address our host */
ADDRESS SCALEHOST
/* get rid of all those env vars */
CALL SETENV(G)
CALL SETENV(H)
CALL SETENV(gad)
CALL SETENV(OS)
CALL SETENV(xpix)
CALL SETENV(ypix)
CALL SETENV(L)
CALL SETENV(xaspect)
CALL SETENV(yaspect)
CALL SETENV(xwide)
CALL SETENV(yhigh)
CALL SETENV(dx)
CALL SETENV(dy)
CALL SETENV(stype)
CALL SETENV(SCO)
CALL SETENV(YOSET)

/* get rid of message window */
CALL POSTMSG()
/* get rid of window and quit host */
CALL QUIT(SCALEHOST)
/* get rid of screen (if any) */
CALL CLOSESCREEN (APS)
EXIT 0

```

•AC•

Please Write to:
Merrill Callaway
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140



by Phil Saunders

The Amiga has always had a good selection of public domain and shareware software. This is as true for music software as it is for anything else. This month we'll look at a variety of low and no-cost programs that can help your music making.

MIDI Library

A good place to start is with William Barton Jr.'s wonderful program, *MIDI library*. MIDI library contains a set of standard MIDI input/output routines that can be called from BASIC or C programs. MIDI library saves programmers the trouble of writing their own MIDI interface routines and can speed up program development dramatically. It also includes a variety of utility programs designed to handle system exclusive data and play MIDI files. (Fred Fish Disk #280)

SysXloader

While the MIDI library utilities are very useful, they require users to work with the Command Line Interface (CLI). This isn't too hard to do, but can be awkward for Amiga novices. Several programs have recently appeared that add a mouse and window interface to MIDI library utilities. Howard Wooten's *SysXloader* programs use X-Icon, MIDI library, and the ARP library file requester to add a slick user interface to the TSX (Transmit System Exclusive) and RSX (Receive System Exclusive) utilities found in MIDI library. He intends to distribute SysXloader to commercial synthesizer patch vendors so that they will have an easy-to-use program to load patch banks from the Amiga to a synthesizer. This should encourage more patch vendors to make their products available on Amiga-formatted disks.

SysXloader works like a champ. The RSX program receives MIDI System Exclusive dumps from any synthesizer. You simply enter a destination file using the ARP file requester and start the system exclusive dump from the synthesizer's front panel. You can even select the number of SysEx messages to be recorded in order to accommodate synthesizers which send multi-part SysEx dumps. Howard reports that RSX sometimes misses a byte when receiving a long, fast SysEx dump, but I haven't had problems. TSX performs the opposite function, bringing up a file requester and then sending a SysEx file to your synthesizer. SysXloader even creates icons for SysEx files, making it easy for Workbench users to manage SysEx files. Using System Exclusive will never be entirely painless, but SysXloader makes it as easy as possible. (CompuServe AmigaArts Forum, Library 7, "SYSX.LZH", GENie Amiga Library, #13072, "SYSX.LZH")

Midiplay 1.0

MidiPlay is a utility that allows users to play format 0 standard MIDI files without a MIDI sequencer. It adds a Workbench-style interface to William Barton Jr.'s "playmf" utility from the MIDI library. *MidiPlay*'s interface was programmed in *CanDo* by John Rappold. It can play up to 15 files, and allows saving a collection of songs along with information about the order to play them in and the number of times to repeat each song. While *MidiPlay* works, it has a couple of limitations. The program is picky about where files are located and plays only MIDI format 0 files, not the more common format 1 files. Nevertheless, since it is a freeware program, it would be useful for distributing MIDI songs to audiences that may or may not have sequencer programs. (CompuServe AmigaArts Forum, Library 7, "MIDIPL.LZH", GENie Amiga Library #9149, "PLAYMF.LZH") John Rappold plans to upgrade *MidiPlay* to version 2.0 and distribute it with other public domain MIDI programs; he can be contacted by mail at this address:

John Rappold
Music Department
Dawson-Bryant High School
Hornet Lane
Coal Grove, OH 45638

MFF1to0

Since *MidiPlay* only plays Format 0 files, you may need a way to convert the more common Format 1 files to Format 0. Cor Dikland has written a convenient utility to perform this conversion. *MFF1to0* runs in the CLI, but all you have to do is type "MFF1to0" followed by



MidiPlay allows playing 15 MIDI files at a time.

the name of the Format 1 file and the name for the converted Format 0 file. There's not much to say about this program: it does exactly what it says it will. (*CompuServe AmigaArts Forum, Library 7, "MFF1A.LZH"*)

SMUS2

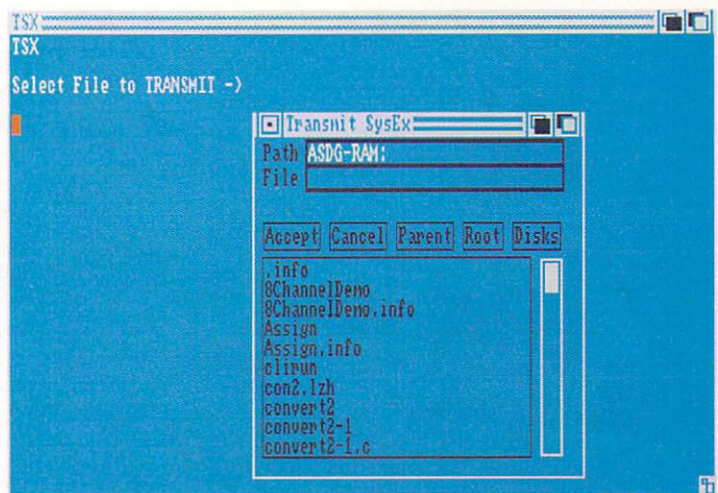
Many Amiga users start out with *Deluxe Music Construction Set* (DMCS) or *SONIX* before moving on to a full-fledged sequencer program. They want to use their old files on their new sequencer, but many sequencers either can't import DMCS or SMUS files or require an extra cost utility. SMUS is a standard Amiga music file format used to transfer music between programs. While it is supported by many multimedia programs, SMUS does not contain as much information as the DMCS or MIDI file formats. Nevertheless, it is much easier to convert DMCS files to MIDI files via SMUS than by any other method. DMCS can save a file in SMUS format, but that's only half the problem. You still need a way to get SMUS files into your sequencer. *SMUS2* is a public domain program by Cor Dikland that converts SMUS files to MIDI format 1 files.

Like MFF1to0, SMUS2 uses the CLI interface. Type in "SMUS2" followed by the name of the SMUS file and the name for the new MIDI file. SMUS2 will then convert the SMUS file into a MIDI file that can be imported into your sequencer. There are a couple of caveats. While DMCS can output on any MIDI channel, this information is not saved when the SMUS file is written. DMCS does save the "Set Instrument" code, which can be used to indicate the proper MIDI channel. DMCS patch or Instrument changes will not be saved properly, so you may have to reenter them from the sequencer. The SMUS format does not save the dynamics of a second track when the DMCS 2 tracks per bar option is used, though SMUS2 can correct this problem. These warnings aside, the program works very well as a means for moving DMCS scores into a MIDI sequencer. SMUS2 also allows you to use DMCS as a front end to enter music using standard notation and then convert it to MIDI. While not perfect, this technique may be useful to musicians who prefer to work primarily with standard notation but also want full MIDI control. (*CompuServe AmigaArts Forum, Library 7, "SMUSTO.LZH"*)

FixDMCS

Speaking of DMCS, the program has an annoying bug that will cause crashes if it finds too many instruments in the Instruments directory or too many files in the Music directory. D.J. James has written a short utility that will patch DMCS so that it uses the ARP or ASL file requester, allowing the program to handle large directories. *FixDMCS* normally uses the

SysXloader adds a graphic interface to MIDI Library utilities.



ARP library file requester, but will automatically use the ASL requester if you are running with Kickstart version 2.0 or later. The program patches five different versions of DMCS, including the relatively recent version that was updated to run under Kickstart 2.04. As always, when using a patch program, be sure to work on a copy, not on your original program disk! *FixDMCS* does exactly what it promises. I find the ARP file requester to be much easier to use than the original DMCS one, and fewer crashes are a nice bonus! Be sure to get version 1.1 of *FixDMCS*, dated 12/23/91. The earlier version will not support Kickstart 2.0. (*CompuServe AmigaArts Forum, Library 7, "FIXDMCS2.LZH"*, *Genie Amiga Library, #14017, "FIXDMCS1.LZH"*)

OctaMED

One genre of Amiga music programs that I haven't discussed are the public domain "tracker" programs. These programs share a more or less common file format, and play scores using the Amiga's voices. While the price of the "tracker" programs is right, entering music for each voice by typing in alphanumeric values for each note seems like a giant step backwards to me. I'd generally advise users to buy *SONIX* or *DMCS* rather than spend the time fighting to convert music into numbers and then enter it into one of the "trackers." While *OctaMED* is a descendant of the "tracker" programs, it offers one interesting feature: the ability to play eight sounds simultaneously using only the Amiga's internal sounds. The demo version I have is very impressive: songs play three-note chords, drums, bass, and a melody line simultaneously. While I still have reservations about note entry, the ability to play eight notes at a time makes *OctaMED* worth looking into, especially if your music is limited to the Amiga's internal voices. *Blue Ribbon Soundwork's SuperJAM!* also offers the ability to play more than four sounds at

once, though the number of notes depends on the processing power of your Amiga. An *OctaMED* demo can be found on *CompuServe (AmigaArts Forum, Library 7, "OCTA.LZH")*, but the actual program is distributed by an English user group. To obtain the *OctaMED* program, send an International Money Order or check for 15 pounds sterling to:

AMIGANUTS UNLIMITED
169, Dale Valley Road
Hollybrook
Southampton
SO1 6QX ENGLAND

SMUS to Tracker

I mentioned the difficulty involved in entering music into the "tracker" programs. Once again, there is a public domain answer. Don Fogg has written a program called *SMUS to Tracker* which converts SMUS files into a textual printout showing the alphanumeric characters for use in one of the tracker programs. You still have to type them in, but the program will convert the score for you. I'm still not convinced that the tracker programs are worth the extra time they require, but if you're using one, *SMUS to Tracker* is essential. (*Genie Amiga Library, #12644, "SMUS2-TRACKER"*)

These files can help make the MIDI user's life a little easier, at little or no cost. What is especially interesting is that several of them are written using languages like *CanDo* or *AmigaDOS* scripts. The authors are to be congratulated on making their programs available to the Amiga community. I hope you find them useful.

•AC•

Please Write to:
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Fall River, MA 02722-2140

bug bytes

The latest in tips,
workarounds and upgrades

by John Steiner

product: DeluxePaint IV
re: 6800 chip and Workbench 2.0
source: EMail

This month I received Electronic mail from Bill Hogsett via Compuserve EMail. Bill writes: "Michael Fahrion, a friend of mine in the Cleveland Area-Amiga Users Group, asked me to send you a message concerning a bug in *DeluxePaint IV*. He is a very experienced and respected Amiga artist. The bug appears *only* with a 68000 chip if Workbench 2.0 is being used. The machine will crash after the color palette requester is used to change more than one color."

This bug was also reported in a letter from Kelly Petlig of Seattle, WA. Mr. Petlig comments that the error generated is the 81000009 Software Error. With people everywhere upgrading their A2000s and A500s to Workbench 2.0, this problem is sure to be encountered often.

I contacted Electronic Arts for their comments on this problem. Orlando Guzman, Assistant Producer of MultiMedia Products, responds: "The problem reported by Mike Fahrion, by way of Bill Hogsett,

is in fact a known problem on 68000-based machines that have had 2.04 installed. We are aware of this problem and will be addressing it in a future revision of the program. I don't have a release date for you, but as soon as I can give you the information, I will. We hope Mr. Fahrion and all other DeluxePaint users will be patient with us. Maybe we'll even make a few happy with our revision. We ask that any problems that users are having with DeluxePaint IV be reported in the form of letters to: Electronic Arts Technical Support Dept., 1450 Fashion Island Blvd., San Mateo, CA, 94404. Be as specific as possible when reporting a problem; please be sure to include your machine configuration. CompuServe users can send mail to 76004,237."

DeluxePaint IV was a major upgrade for Electronic Arts, and their reputation for delivering a top-quality product is well known. Mr. Guzman went on to say that they are working hard to complete the next revision as soon as possible.

As I mentioned above, Kelly Petlig also reported this problem. He notes that DPaint III is handy and works great for simpler jobs that don't require HAM mode.

product: Digital Sound Studio
re: Problems with Switchboxes
source: Reader Mail

In addition to his information about DPaint, Kelly commented that GVP's Digital Sound Studio, a product he likes very much, has a minor hardware problem. He writes "It seems that they (GVP) use pin 25 only for ground (-) signal into DSS, possibly causing problems with most of the parallel switchboxes. Less expensive parallel switchboxes usually don't switch pin 25, but leave that pin open internally, leaving a missing ground reference to DSS." Kelly provides four solutions: 1. Don't use a switchbox. 2. Buy an expensive switchbox that switches all pins. 3. Open the switch box and wire all pin 25s together. 4. Open the DSS and solder a bus wire from pin 20 to pin 25. Though Kelly assumed that the fourth choice would void GVP's warranty, it is the method he chose.

product: PageStream and HP Laserjet
re: Printing Problem
source: Reader Mail

Jim Ollick of Bergenfield, NJ, wrote to offer a suggestion to James Romick, who had reported a problem with *Pagestream* and an HP Laserjet printer in the January 1992 "Bug Bytes." Mr. Ollick had the same problem of printing extra characters on an A2500/HP Laserjet II combination. He replaced the printer cable and an A/B switch box and the problem has not come back since. He also uses *Pagestream* on an A2000 equipped with a GVP A3501 accelerator and HP Laserjet III. This setup works without problems.

product: Quarterback version 4.3
re: Not creating links
source: EMail

Jonas S. Green writes via Portal EMail of a problem with Workbench 2.0 file links and *Quarterback* version 4.3. He writes, "I have discovered that Quarterback version 4.3 does not recognize the new link feature of 2.0 (makelink command). If a link is created to another file, Quarterback will save two copies of that file, instead of one and the link."

I contacted Mark Thomas of New Horizons Software for his comments. He replied, "The problem mentioned by Mr. Green is an unfortunate incompatibility between Workbench 1.3 and 2.2. Let me explain: Workbench 2.0 added link support, but in order to be compatible with older 1.3 programs, the OS has made links invisible to programs that do not specifically ask to see links. So, Quarterback 4.3, written under the 1.3 OS, does not look to see if a file is a link, as did as other programs written at the time. The information on links simply wasn't available at the time 4.3 was written. So what happens is that 4.3 thinks that links are real files because the OS presents them that way. Therefore, when you're restoring, these files that were links get stored back as files. There was no way around this at the time." Mark also commented that Quarterback 5.0 should be available by the time you read this, and it fully supports links and restores them correctly. Other feature of QB 5.0 include streaming tape support, file compression, ARexx support and password protection. The user interface has also been redesigned. If you want to be sure to get the Quarterback 5.0 upgrade, send in the registration card for your Quarterback program to New Horizons.

New Horizons Software
Box 43167
Austin, TX 78745
(512) 328-6650
FAX (512) 328-1925

product: EasyI
re: Seeking Upgrade
source: Reader Mail

In the February 1992 "Bug Bytes," Irwin Jahns of Tallahassee, FL, wrote requesting information about Anakin Research's EasyI graphics tablet. He wants to upgrade his driver to work under Workbench 2.0. Richard Day of Madison, WI, responded with a letter which reports that the EasyI driver for version 1.3 (released in late 1990) works fine under Workbench 2.0. He could provide no information on Anakin's continued existence.

product: SCSI Controller
re: A3000 "Hang-up"
source: Reader Mail

Everett Green of Ridgecrest, CA, writes of a problem regarding the A3000 SCSI port and of another problem A2232 multiport card. The SCSI controller on the A3000 appears to "hang" for no known reason. He notes problems with both the Syquest cartridge drive and a Tandberg 3600 tape drive. I would recommend that Mr. Green contact a local dealer that has a Commodore service department. A similar problem has been documented on the A2091 controller, and Commodore released new ROMs which fixed that. There may be a service bulletin on this problem when it relates to the A3000, as its SCSI controller circuitry is similar to that found on the A2091. My own personal A3000 has two SCSI hard drives on the bus, and I have not noticed a similar problem. If you have a solution, let me know; I'll pass it along.

Mr. Green also writes regarding the A2232 multiport serial board. "The SERIAL.DEVICE driver supplied with the board does not recognize SERF_EOFMODE (XON/XOFF protocol). C-A (via Mr. Reader of Customer Satisfaction) has stated an intention to send a later version of SERIAL.DEVICE, but the replacement has yet to be seen." Any comments you might have on this problem or the replacement driver would be appreciated.

product: Broadcast Fonts 3D
re: Distributor Change
source: Developer Notice

Phil Kestell of Unili Graphics sent a letter announcing that effective December 23, 1991, Impulse, Inc. will no longer be selling or supporting *Broadcast Fonts 3D*. Anyone who purchased this package either in a store or directly from Impulse may contact Unili Graphics so that they can be informed of product revisions as well as to obtain technical support.

Unili Graphics
143 Lorraine Ave
Pittsburgh, CA 94565
(510) 439-1580

product: A-Sound Elite
re: Bug Fix
source: Release Note

A release note from Deltaware Products announced that they have recently discovered an incompatibility between Aegis' SoundMaster audio digitizer and *A-Sound Elite* sound editor software. The problem revolves around SoundMaster's microphone input and results in the user being unable to toggle between the microphone input and the RCA jacks. Deltaware has completed a fix for the problem which will be sent free to registered owners of A-Sound

Elite. The fix also corrects a small problem with the record-to-disk feature, when used with Perfect Sound 3.0. If you have questions about this update, contact technical support at:

Deltaware Products
3148 Kingston Rd.
Suite 202, Box 395
Toronto, Ontario, Canada
M1M 1P4
(416) 431-2047

product: MaxiPlan vs. Quattro Pro
re: Question on Preference
source: Reader Reaction

L. A. Beranek of Victoria, Australia, writes to take me to task for commenting that I preferred *Quattro Pro* on the PC to *MaxiPlan* or any other Amiga spreadsheet, for that matter. He comments, "In my case, I use Quattro at work where I have access only to clones and MaxiPlan at home on my Amiga. I like both programs for different reasons and ideally would prefer to have Quattro on the Amiga, but with some of the MaxiPlan features. I was surprised at your opinion that Quattro was several times more powerful than MaxiPlan. I wonder if you could possibly list the added features of Quattro, partly for the benefit of Amiga users and partly for Amiga spreadsheet programmers to have something to aim at."

First, I must comment that there are three versions of Quattro out there, I've used them all, and each has added functionality; I don't know which version Mr. Beranek uses. Further, these comments are not meant to be pejorative to the Amiga or the currently available Amiga spreadsheet offerings. Borland, the developers of Quattro, can afford to develop software as powerful as QPro because the large user base of PCs justify the high development

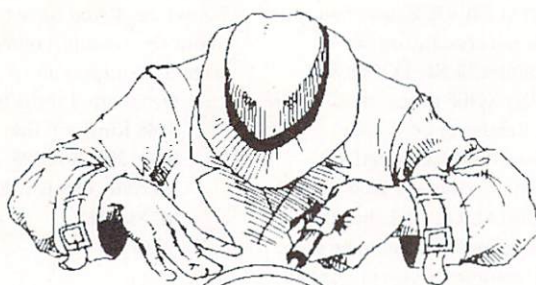
costs. Those features of QPro which I use that I haven't seen in an Amiga spreadsheet are the ability to display graphs in the middle of a spreadsheet (graphs don't have to be viewed separately), and its WYSIWYG interface that uses Bitstream font technology to provide professional quality screen, and printed output with a choice of many font sizes and styles. Color text is supported on VGA displays, and its automatic recording macro function, along with a Transcript feature that allows sophisticated abilities to undo, make spreadsheet manipulation much easier than packages I've seen on the Amiga. Quattro is also a multimedia tool, though I don't use it as such myself. You can create slideshows using graphics and sounds, buttons (hot spots) can be defined on the screen for interactive presentations, and a library of clips and soundfiles comes with the program. The functions built into Quattro Pro version 3.0 should all be natural for Amiga; yet nothing I have seen combines all of the features into one package as well as Quattro.

That's all for this month. If you have any workarounds or bugs to report, or if you know of any upgrades to commercial software, you may notify me by writing to:

John Steiner
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

...or leave EMail to John Steiner on Portal, or 73075,1735 on CompuServe. Internet mail can be sent to John_Steiner@cup.portal.com

•AC•



ROOMERS

by The Bandito

[These statements and projections presented in "Roomers" are rumors in the purest sense. The bits of information are gathered by a third-party source from whispers inside the industry. At press time, these rumors remain unconfirmed and are printed for entertainment value only. Accordingly, the staff and associates of Amazing Computing cannot be held responsible for the reports made in this column.]

The New Price Isn't Right

Now that the Christmas promotions are over, Commodore has gone and raised prices on the Amiga back to pre-holiday levels. This is causing much consternation at dealerships, where people can't believe their eyes. The Amiga 2000 is around \$1700 list price, which is just ridiculous these days. Didn't anyone at Commodore notice what happened the last time a computer maker raised prices? You may recall Apple tried this trick a few years ago, and they were hammered by the press and their customers, and had to back down a few months later.

The Bandito has heard that Apple is cutting prices sharply on its entire Macintosh desktop line. This is very bad news for the Amiga, especially right after Commodore has raised the prices on the A2000. The Apple price cuts range up from 17% for the Macintosh Classic to 36% for most of the line. Here's where it really hurts the Amiga: The Macintosh LC, with 4MB of RAM and a 40MB hard drive, is being slashed from \$2700 to \$1700 retail. With the usual discounting, the street price will be under \$1500. And as of April, the LC will come

with a 16 MHz 68030 rather than the 68020. This spells disaster for the highly overpriced A2000 and for the bloated pricing on the A3000 series.

Wake up, Commodore! Apple is gunning for you, and this time they mean business. Commodore has one chance: an immediate price cut on the existing A2000 and A3000 computers. The A2000 list price needs to be about \$700 to be competitive with these new Apple prices. The 16 MHz A3000 should be around \$1500 to meet these new Apple prices. And Commodore has to immediately rethink the entire A2000 product line strategy. They can't drop the product line entirely, not while Video Toasters still won't work in the A3000 case. But perhaps they could put an A3000-level motherboard in the A2000 case and solve the problem, for now. Or maybe NewTek will finally get that A3000 Toaster out there. But something needs to be done, or else Amiga sales are really going to take a nose dive in the near future.

Part two of the strategy: get those advanced Amigas out there as fast as possible—and at reasonable prices. Don't forget to ensure Toaster compatibility if you want good sales. Get those new graphics chips off the drawing boards and into hardware ASAP. Otherwise, it's starting to look grim for the home team.

CES Report

At the Winter Consumer Electronics Show in Las Vegas, Commodore was pushing CDTV with renewed vigor. Their booth in the main part of the exhibition hall was well-attended. Of course, the emphasis was on CDTV, but they were also showing A3000s, A2000s, and

especially A500s. The big news about CDTV is two-fold: it hasn't sold very well up to now, and Commodore is going to try a new tactic to fix that problem. According to Jim Dionne (the Big D at the Big C), Commodore realizes that it was a mistake to sell CDTV and pretend there wasn't an Amiga inside. Now they're gonna tell it like it is, as you may remember the Bandito suggested recently. Commodore has new videos pointing out the benefits of CDTV prepared for release; there's a whole new ad campaign (which premiered in the CES daily magazines) comparing the expandability of CDTV to the non-expandability of CD-I. Also, the Amiga upgrade kit for CDTV is now shipping. You remember, that's the one the Bandito mentioned some time back: it consists of a full-sized A2000 style keyboard (with a cord), a disk drive, and a cordless mouse, all in black, and sells for about \$200.

Unfortunately, Commodore is still being coy about the DCTV add-in to CDTV. Apparently, they're still wrestling over a contract, and Commodore is still trying to figure out all the manufacturing and marketing angles.

Commodore is counting on selling more A690 CD-ROMs than CDTVs, at least initially. The completed A690 goes beyond the early prototypes shown before, and now offers complete CDTV compatibility (good plan, sez the Bandito). If there is no disk in the Amiga's drive, the Amiga/A690 combination becomes a full blown CDTV, complete with the special CDTV startup screen. The A690 is also capable of holding a SCSI controller, a 40MB 2-inch hard drive, and 2MB of memory internally, with a SCSI port out the back for further expansion.

Pricing isn't final yet, but the Bandito expects it to be in the \$500 range, though it oughtta be much less before the end of the year.

There is one problem with the A690, though; it doesn't work with the A590, Commodore's hard drive and RAM expansion for the A500. You see, there was no pass-through on the 590, and there's no pass-through on the 690. Looks like those of you who believed in Commodore before are out of luck.

Commodore's also trying to push the A500, creating three different software bundles for it: a Starter pack, a Productivity pack, and a Deluxe pack. Both the Productivity and the Deluxe packs are 1MB A500s; the Starter pack is a 512K machine. Perhaps this is a test to see which type of software people are most interested in. Hopefully, this will boost A500 sales, though again the price point is still the most important thing, and it definitely needs lowering.

Meanwhile, some distance away at CES, Phillips had a huge booth displaying all their consumer electronics; part of it was devoted to CD-I. Their display looked pretty good, but it was obvious that CDTV has a lot more software available, most of it more interesting than CD-I. The Bandito has heard an interesting story about CD-I and CDTV software. It seems that Phillips got a hold of the rights to put the classic Amiga game *Defender of the Crown* on CD-I. Not surprisingly, it looks a whole lot like the original Amiga version. But here's where the fun starts. Apparently Commodore heard about this project and secretly hired Jim Sachs to do *Defender of the Crown II* for CDTV. Commodore was showing it in an almost completed version. This new version is stunning; it's the game that the original *Defender of the Crown* was meant to be, both in gameplay and graphics. The new CD soundtrack is superb, and the narration is done in full digitized sound by an English actor.

Commodore also announced a joint effort to form "CDTV Consortium Japan" with Mitsui & Co. for the purpose of promoting and developing CDTV players and titles in Japan. Commodore and Mitsui began inviting other companies to join the Consortium prior to the opening of the Tokyo International Multimedia Expo '91. The Consortium will develop new software techniques including motion video compression routines. Already, ASCII and other Japanese companies have expressed interest in joining. Looks like the Japanese are hedging their bets in case CD-I doesn't make it big. Hey, where are all those CD-I players

from other companies, anyway? Maybe they're not going to come out unless Phillips actually sells a reasonable number of CD-I units, something which may take a while, if ever.

Meanwhile, Tandy Corp. is officially throwing their hat into the CD-ROM ring. Tandy's new system, as the Bandito described it to you before, is essentially a very wimpy MS-DOS clone with a CD-ROM that uses a TV set for a monitor. They're calling it the Gryphon, which as you may know is the name of a mythical monster. We'll have to see if the hardware lives up to that description. Is it mythical? Is it a monster? The Gryphon will retail for \$699, which is about a hundred clams less than CDTV and \$300 less than the CD-I retail price. Of course, by the time this thing actually ships, CDTV will undoubtedly be cheaper; the Bandito hears that the target is a \$499 list price by Christmastime. Reportedly, Tandy is trying to beat out Apple Computer, which is expected to introduce a Sony-built Macintosh CD-ROM/TV machine by Summer CES. From all appearances, Christmas shoppers this year will be confronted with a variety of conflicting CD-ROM choices. Will a winner emerge? The Bandito's best guess is that some machine not yet built will be the eventual winner in the CD-ROM race. Who'll build it? Heck, if you can correctly answer that question you'll make millions in the stock market.

Legal Wars

The Bandito had mentioned this before, but now it's official. MicroIllusions is suing Mediagenic for \$10 million bucks; the case is scheduled to begin in July of 1992 in San Francisco. Why the lawsuit? Well, MicroIllusions products were distributed by Mediagenic, if you remember; MI alleges in their suit that Mediagenic mishandled their account. It all gets rather technical, but basically MI is unhappy with their implosive growth and blames Mediagenic. Mediagenic, of course, denies the allegation. So it all ends up in court, where the really interesting thing to discover is how MicroIllusions expects to get ten megabucks out of a company with a negative net worth. Say, maybe somebody could make a game out of it...

Meanwhile, in a possibly unrelated move, Mediagenic has changed its name back to Activision and moved the company to LA. Peter Doctorow, formerly of Accolade, is now in charge. A big job, sez the Bandito. Maybe Peter should have tackled something a little easier, like being president of Commodore. Now there's job stability for you...

Amigas on Screen

The Bandito hears that Amigas have been invading the new Tinseltown in record numbers. Apparently, the booming video and movie production business in Florida is using a lot of Amigas to do their production work. Check out the Nickelodeon cable channel; a new game show (Nick Arcade) uses Amigas to put contestants inside of video games. Apparently, the folks at Nickelodeon use a variety of Amiga peripherals, including the Video Toaster and GVP's Impact Vision 24. (For more on Nick Arcade, see "And Furthermore," V7.3, p.96.—Ed.)

Meanwhile, the Amiga is the star of a new science fiction show headed for your TV this fall. "Babylon 5" is about a deep space station with lots of unusual visitors. Space exterior shots (spaceships, station, planets, and the like) are being done with Lightwave and the Video Toaster. You can see some of the scenes on the Toaster 2.0 demo tape that NewTek is showing.

New Business

Trip Hawkins, founder of Electronic Arts, has founded a new firm called SMSG, Inc. Investors in the new firm include famed vulture capitalists Kleiner Perkins (investors in Electronic Arts) and media behemoth Time-Warner. What does the rather awkward name SMSG stand for? Nothing, really, according to Hawkins. Kind of lame, sez the Bandito, especially compared to a snazzy name like Electronic Arts. Perhaps loyal *Amazing* readers can come up with some zippy words to go with those initials. Oh, you also want to know what business the new company will be in? That's pretty cloudy, too. Something to do with multimedia; that's about all that Hawkins will state for the record.

Video Card Wars

The Bandito has some interesting data about the latest entrant in the video card race: Rambrandt, from Progressive Peripherals & Software. This wonder card is designed for heavy duty graphics processing. Rambrandt has two framebuffers with adjustable resolutions of up to 1024 x 1024 pixels per buffer in 32-bit color. The Rambrandt uses a Texas Instruments 34020 40 MHz 32-bit graphics processor, with a 34082 graphics/math coprocessor for added muscle.

The board does just about everything except feed the cat—composite and RGB video input, composite and genlockable RGB video output with 16.7 million colors possible in resolutions up to 1024 x 1024,



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real-time framegrabbing at 1024 x 1024 resolution, variable display resolution from 320 x 400 to 1024 x 1024, in 8 or 32 bits; you can get a 1024x2048 scrollable work area by combining buffers. The hardware also includes hundreds of image-processing functions.

Rambrandt can do effects like flipping, page turns, colorization, solarization, polarization, up to 8:1 zoom, rotations, picture-in-picture (PIP), live resizing, digital graphic overlay, and many real-time 24-bit animation and digital video effects. Of course, the software for all of this neat stuff has yet to be written. But PP&S has come up with a way to make software support more likely; along with Digital Micronics, they've created a standard set of libraries for supporting 24-bit graphics cards.

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According to their press release, PP&S and Digital Micronics Inc. (DMI), with Commodore's cooperation, established this standard at the Amiga Developer's Conference in Denver. Standard Amiga Graphics Extension (SAGE) provides a way for developing applications compatible with Rambrandt, DMI's Resolver, and other 340x hardware products. SAGE libraries are available to other manufacturers, too. Developers interested in SAGE can obtain the professional developer's kit, which includes manual, SAGE libraries, and source code examples, for \$300.

What's the price on this wonder card? The standard configuration board with a 40MHz 34020 processor, 34082 coprocessor, 8MB of VRAM, and 8MB code RAM, has a suggested list price of \$3995. Rambrandt is compatible with A2000's and A3000's, AmigaDOS 1.3 and 2.0, and comes in NTSC and PAL versions:

The Bandito thinks its sounds really neat. But it sure would be nice if Commodore would adopt SAGE and a 340x0-driven graphics standard for future Amigas. Now that the high-end Macintoshes have built-in 24-bit video, isn't it past time that Amigas came that way, too?

Entertainment Report

This time around the Bandito reports on some interesting developments at Spectrum Holobyte, the company that gave us the amazing Falcon flight simulator. You may not have been aware of it, but Spectrum Holobyte is owned by Sphere, which is owned by the ill-starred Maxwell empire, which is in the throes of bankruptcy proceedings after Robert Maxwell took a header off his yacht, thereby revealing that he swiped hundreds of millions from employee pension funds to keep the empire alive. Anyway, all of this financial hoorah isn't a problem yet, but it could mean difficulties for Spectrum Holobyte in the future; perhaps change in ownership may occur as the Maxwell Empire breaks up. Meanwhile, Spectrum Holobyte has been busy developing their "Virtuality" virtual-machines based on Amigas.

Virtuality is a new virtual-reality arcade game created by Spectrum Holobyte and distributed by Horizon Entertainment. While standing in a sensor-loaded platform, you wear headgear with two-color LCD panels for imaging, and of course stereo sound, too. The first game has you gun down pterodactyls or other players in a 3-D world; according to participants, it's amazingly fun. The system is based around two Amigas with 25 MHz 68030's and two TI 34020

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graphics processors (one per LCD panel) along with Ethernet to hook them together. What's it cost? About \$65,000 if you want one in your own home. The Bandito's not quite ready for that; waiting for the home version seems like a better idea. Now when can we see a home version of this? Maybe sooner than you think. A lot of companies have been seduced by this vision. Mandala has steady popularity at trade shows; with a CDTV version on the way, maybe it can reach a mass market someday. The cost of the hardware is dropping with amazing speed.

Blast From The Past

Here's a news tidbit from the past: remember Moniterm, the company that made a large-size Amiga monitor under the Viking label? Of course, that monitor never seemed



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to sell very well. Do you even know someone who owns one? The Bandito supposes that poor sales were not just an illusion; Moniterm has filed for Chapter 11 bankruptcy. Ah, well. Looks like those days when it looked like the Amiga might become a powerhouse in the desktop publishing market are long gone. There was a time when the Amiga had a shot at it; the Amiga offered far more graphics horsepower for the price than a Macintosh several years ago. And *Professional Page* looked like a contender... but of course, Commodore couldn't really make it happen.

Amigas In Macland

Once again, NewTek did the Macworld show, displaying Toaster 2.0 software and their Macintosh interface. Apparently, it's no secret at all to Mac owners that the Toaster

sits inside an Amiga; but they just like buying it this way better. No bothersome inquiries from the corporate purchasing office, either. "Amiga? We don't have that on our authorized computer list. Toaster? Sure, Mac peripherals are OK." They were (again) the major attraction at the show, with people stacked ten deep in the aisles. Some were even sitting down in the aisles to watch Kiki do her patented Toaster demo. The Bandito hears that NewTek has taken some flack over the Video Toaster price increase, but mostly from people who can't afford a Toaster anyway. The Bandito figures that NewTek should have priced the Toaster higher from the start; everybody who bought it up to now got a price break. Hey, if you want the Toaster for a toy, it's way too expensive. But if you can make money from

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Oh, yes, and it does have something to do with video. The Bandito's still trying to figure out what it could be... perhaps the visual equivalent of karaoke? Karaoke machines put your voice in place of the lead singer on audio. Maybe a video karaoke would put your face in place of Kevin Costner. Better still, it would make you look like Kevin Costner or Michelle Pfeiffer on videotape. Yup, there'd be a market for that... The Bandito will take two.

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video, you'll probably pay for your Toaster with your first contract. So, NewTek, here's your challenge: give us a cheap Toaster, maybe without all the whiz-bang software, just something that will do cool DVE's for maybe 500 bucks. There, that'll fit into people's toy budgets.

What is NewTek working on in there labs? The Bandito, in a quest for facts, has tried everything from bribery to torture but information is sparse. A few bits and pieces have emerged, though: whatever they've been working on looks like it will ship this year, and the NewTekers expect that it will be every bit as revolutionary as the Toaster. One NewTekker whispered that they think they'll even sell more of it than they have Toasters, which would be pretty impressive.

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HOT TIPS

Chuck Rock (Virgin Games)

- 1) Pay attention to where everything is because it's always in the same place game after game.
 - 2) Remember that although rocks make great weapons, they can also be used to protect oneself.
 - 3) Watch out for inanimate objects which suddenly become animate.
- (Courtesy of Miguel Mulet, AC Contributor)

Leander (Psygnosis)

- 1) Pay attention to the hints that the sirens give you; you may get lost without them.
 - 2) Cave openings may not seem obvious at first; look for an opening a little larger than your character.
 - 3) You can essentially destroy anything that moves. If you don't get them, they'll get you!
 - 4) Giant spiders are more easily destroyed when you're "tailing them."
 - 5) Dragons can be destroyed, but they'll take several blows for you to destroy them. Unfortunately, it only takes one blow from the dragon to take your life.
- (Courtesy of Miguel Mulet, AC Contributor)

Out of this World (Interplay)

- 1) When you reach the bottom of the waterfall, you must destroy it with your gun and then escape left and up. However, first, you must go down to the right past the falling rocks and hanging killer-tentacles to the locked door. Destroy the door. Then, go back the way you came, via the stalactites. Destroy the waterfall and you can continue. If you do not do this, you can continue to a point, but eventually, you will come to an unpassable chasm. This chasm will be filled with water if you follow the instructions above and can then be passed.
 - 2) In the room where the guard punches you and picks you up by the neck, the solution is a quick kick to his private parts! When your character's limp body straightens a little, push the fire button to kick the guard. As he doubles over in pain, run left to your gun and pick it up. If timed correctly, you will perform a perfect body roll, pick up the gun, and point it at the guard, who is now firing at you. Return his fire immediately—no shields! You'll win the fight and escape.
- (Courtesy of Paul Thurrott, Canton, MA)

Leander (Psygnosis)

With the joystick, enter these codes as usual at the option screen:

- SNOW (it will begin to snow)
- SOTB (for a different effect)
- LUCY (for some cute text and other things)
- LTUS (for unlimited lives)
- LVFT (start world 3)
- ZXSP (start world 2)

(Courtesy of Kenneth Sessions, Troy, AL)

Kenneth is the winner of *OH NO! MORE LEMMINGS!*, the game shown in last issue's column. Congratulations, Kenneth! *The name of the winner will be published in next month's issue.*

To enter, send in your HOT TIPS on your Amiga games to:

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This month's prize:



Killing Cloud (by Konami)

DIVERSIONS

Bill Elliott's NASCAR Challenge

by Rich Mataka

Bill Elliott's *NASCAR Challenge* is the ultimate challenge in stock car racing, with almost every facet of this popular pastime being simulated in this program. To be a winner in this sport means perfection as a driver and perfection in the machine. Each track is different and demands various racing skills and changes in car setup. Setting up your car to run on different tracks and mastering your driving skills is what this simulation is all about.

Following a brief history of NASCAR, the manual provides information on car selection, the racing tracks, tuning your car, and stopping in the pits, the most important section in the manual. Like real life NASCAR racing, races are often decided in the pits. It's important to master these pit skills.

NASCAR uses a password copy-protection scheme. You must refer to an included password booklet to play the game. You are then presented with the main—where all the decisions on how you will play the game are made. The four main choices are Car Selection, Race Selection, Track Selection, and Start Racing.

Upon choosing the Car Selection screen, you are given the specifications of the cars from a choice of three different cars: the Ford Thunderbird, Chevrolet Lumina, or the Pontiac Grand Prix. Later you will see that no matter which car you choose, there are tuning options that are available to increase its capabilities.

The next item to choose is the Track Selection. As in actual racing, the game has banking on the high speedways or sharp turns. Also, each track offers its own unique challenges to your driving skill as you speed around the raceway.

Then decide how many laps you wish to race. If you just wish to spend some leisurely time with the game, you can set the lap count low and race fewer laps than the full race. This allows casual players to enjoy the game without sitting through a 200-lap race. While not as challenging as running the full race, a low-lap race can be much fun.



Time spent in the pit-stop is crucial.

The Race Selection screen offers different options concerning the car and the race. Once you've entered the driver's name, you decide if you want to run a Practice Session, a Single Race, or compete in the Championship Season. When you first start out, it's a good idea to choose the practice session so you can get the feel of the track. If you do this with all the tracks, you will quickly become an expert driver.

You can choose to have a qualifying run—determining the pole position from which you start the race or be auto qualified. Auto Qualifying normally places you in

the 10th or 11th starting position—at the end of the race pack. Your next decision is whether to have computer or manual gear shifting. With computer gear shifting, you won't achieve the full benefit of the car's racing speed. Occasionally, you'll oversteer or drive onto the infield or scrape the outside wall on a turn, slowing you down. When this happens, the automatic shifting will not downshift to a lower gear to compensate, resulting in longer time to attain maximum speed. However, with manual down-shifting, you must watch your tachometer so that you don't over rev and blow your en-

for qualification. There are four more decisions to make—engine type, tire stagger, gear ratio, and spoiler angle. Again, the decisions you make here are simple, but the combination of the various settings make for interesting results. There is no correct way to set each item; it depends on your driving style.

Practice runs come in handy. You can practice on each track and tune your car to its optimum performance before qualifying. This can be extremely important as you learn the game's finer features. Controlling the car with the cursor keys allows finer control than using the joystick. When you advance to shifting gears yourself instead of using the automatic shifting, you will quickly learn that the return key shifts up and the space bar down shifts. I felt that learning to use the arrow keys, left and right for steering, up for acceleration and down for braking, with manual shift made the game a bit easier to play than when performing the same functions with the joystick.

Should you pass your opponents on the turns or wait till the straightaways? How should I tune the car? Which car should I pick? Am I getting low on oil? How high can I rev my tachometer? Am I low on fuel? Do I pit-stop now or wait for a yellow flag? All these questions arise while driving your car. It may sound simple, but a great deal of action occurs in the game. It's as if you're in the seat of a real Winston Cup car.

The most spectacular item included with the game is the VCR option. You can choose from eight different views to see the replay of the racing action. It's especially nice to view the end of the race where you just beat out your opponent to receive the checkered flag!

gine. It's a good idea to start off with the computer controlling the gear shifting until you become accustomed to the race track. Then progress to manual shifting so you can experience the full potential of your race car. Your final choice is the Damage Level. The "no damage" option is just as the phrase implies. In "regular damage" mode, the performance of your car is affected if you should have a mishap of some kind. Even in the "no damage" mode, I ended up hitting a car which stopped in front of me, causing an explosive crash.

At the Start Racing screen, you tune your car for the race or

Flames of Freedom

by L. S. Lichtmann

Flames of Freedom, from the Microplay division of MicroProse, defies placing into the standard categories. It's part arcade game, part flight simulator, part strategy game, part role-playing game—and all challenge.

Flames of Freedom (FoF) might be best described as a secret agent simulator. Like 1990's *Midwinter* (FoF's alternate title is *Midwinter II*), the objective in FoF is to stop an invasion—here, of the island of Agora, its citizens valiantly holding out against the evil Saharan Empire. To derail the invasion, you must undertake a series of missions of agitation and sabotage among neighboring islands already in thrall. You will be required to plan your movements, operate a variety of land, air, and sea vehicles, elicit cooperation from the islanders, and destroy Saharan matériel and personnel wherever you find them. Succeed and you'll impede the progress of the Saharan armada and shrink the forces that you'll have to face in the final, cataclysmic showdown.

FoF is complex, and a substantial investment of time is necessary to play proficiently. Fortunately, the manual is a beautiful piece of work, complete, well-organized, and superbly executed, and the designers have included all sorts of training modes to ease the learning process.

You start by creating your secret agent alter ego. FoF comes with a sort of operative design kit, allowing you to customize your agent's facial, physical, and mental attributes. (FoF uses the same face generator to give individual

appearances to all the people you will meet among the islands—a great touch!) You can then move on to learning to control the more than 20 modes of transportation, ranging from balloons to buses to minisubs. Other training modes allow you to become familiar with FoF's extensive map database and the strategic situation.

With your basic skills in place, you can try your hand at several of the 41 available missions. Finally, you can run a full campaign, in which your missions are conducted racing against the calendar to liberate strategic islands before the Saharan armada is launched.

The key to FoF is successful use of interactions with the “non-player characters” (NPCs) you encounter during your travels. Your attributes of pleading ability,

sex appeal, bribery skill, etc., are vital in getting the NPCs to be helpful. Ultimately, it is up to you to de-

cide what approaches to employ and what help from the NPCs will be most useful in moving nearer to the achievement of your mission objectives.

FoF has some weak points. Vehicle control tends to be very touchy—FoF firefights are as tough as they come—and travel can get tedious; these were problems with the original *Midwinter*. FoF helps by furnishing an automated travel feature bypassing a good deal of dull but draining routine.

A brief description simply can't do justice to *Flames of Freedom*. The supporting artwork is excellent, and I stand in awe of the labor that has gone into providing the detailed 3-D environment in which the missions take place. Overall, it's the best effort so far at the perfect marriage of action and strategy, and provides a type of excitement I've never experienced from any other game.



Leander

by Miguel Mulet

As Captain of the Royal Guard, you should try to remain unattached to the family you protect. If the royalty is snobbish or conceited, that's easy. When the King's daughter is 18 years old and beautiful, though, it's a different story. Lucanna is her name, and although courting her may mean your head, the two of you are deeply in love. Imagine your anger and surprise when an evil necromancer kidnaps your true love, and takes her away to parts unknown. Can you rescue her in time?

There are three worlds through which you must guide Leander, using your joystick. The Emperor's Wizard provides you with three sirens to help guide you through each level. Armed with a sword and light armor, you can strengthen both your offensive and defensive positions by collecting coins along the way. As you progress, there are several mercantiles from which you can purchase improved armor and weapons. The most important weapons are the Rune bombs and a sword to use them with, as this is the only weapon that can defeat the evil necromancer Thanatos.

Gameplay mainly revolves around completing a particular task while avoiding the many traps that await Leander. This may mean collecting a special key or crown, and taking it to another location in that world. Like most games of this genre, there is a lot of jumping over and around many hazards, while you try to discover the way out of a particular cave or over the

DIVERSIONS

terrain. *Leander* is best described as a platform adventure, with each world progressively more difficult than the last.

Leander, like most Psygnosis games, has state-of-the-art graphics and music. The screens scroll smoothly, while the graphics themselves are beautifully done. The game has a distinct Oriental feel to it, in both graphics and sound effects. The soundtrack is excellent, as are the sound effects, although you can't have both at the same time.

The three copy-protected disks are supplemented by a well-written manual, which includes a short novella to acquaint the player with how *Leander* has gotten himself into his current situation. The game can be paused, but not saved to disk. To get around this, the player is given a password when each world is complete, which allows him to start the game at the next level. Other game options include selecting the difficulty level, the type of joystick being used, and the option to replay the title sequence at the beginning of each game.

Leander is amusing and exciting to play. Each world provides enough challenge to keep gameplay interesting, but practice does allow the player to progress in the game at an acceptable rate. Graphics and sound effects are up to Psygnosis' usual high standards, and when combined with a great gameplay as in *Leander*, you almost can't go wrong. Take a look at this one!

It's up to you to rescue Lucanna in *Leander*.



Starflight 2

by L. S. Lichtmann

Do sequels to computer games work any better than sequels to movies usually do? At least in the case of *Starflight 2*, the folks at Binary Systems and Electronics Arts have produced a worthy successor to *Starflight*, still my all-time favorite for science fiction computer role playing games (RPGs).

Starflight 2 requires a 512K Amiga, runs under both V1.3 and V2.0 of AmigaDOS, and can be installed on a hard disk. The distribution disks are not copy protected, but the copy protection system is a step back from *Starflight*'s secret decoder wheel, involving as it does counting stars on the relatively perishable map included with the game.



Like its predecessor, *Starflight 2* is principally a game of space exploration. You must assemble a crew of six humans, aliens, and/or robots, assign crew beings to fill the vital roles of captain, navigator, science officer, engineer, communications officer, and ship's doctor, and set off into the void in search of planets for colonization and new alien races to trade with.

Success in trade and exploration will get you the funds necessary to train your crew to the peak of efficiency and to outfit your ship to better survive the dangers you will face. Most importantly, you must be ready, willing, and able to face the challenge of discovering the

source of the enigmatic technology which has transformed the Spemin, those irritating pests from the original *Starflight*, from the galaxy's doormat race to its prospective conquerors.

Veterans of *Starflight* will find the gameplay and mechanics of *Starflight 2* almost completely familiar. The only significant changes concern the augmentation of the economic system. Fundraising in *Starflight 2* depends critically on canny trading. You must identify the wants of the alien races you encounter, and what they can supply you. Purchase or sale price of each commodity must be negotiated in bargaining sessions worthy of a Slobovian rug peddler. Goods must be carried from here, where they are cheap, across the reaches of interstellar space, and disposed of there, where they are dear. Compared to *Starflight*, prosperity is a challenge, since your home station is no longer a handy customer for anything you happen to pick up out there.

The playing interface for *Starflight 2* is fairly standard for RPGs: a collection of screen gadgets, a text output/input area, and a major view window showing the current locale at the appropriate scale. The screens are nicely executed, but the graphics have not improved much over the original *Starflight*, and that which was adequate or a little better two years ago appears a trifle underdone now.

I found one significant problem with *Starflight 2*: some of the exotic life forms I've collected seem to cause some internal check to fail, leading to error messages on the screen and glitches in inventory operations. None of the irregularities have been fatal, but they have been annoying, and I feel users have a right to expect better from Electronic Arts' quality control.

If *Starflight 2* fails to achieve that almost magical blend of play elements and plot drive that I found so compelling in the original *Starflight*, it is nevertheless a highly entertaining game. RPG fans will find it a worthwhile addition to their game shelves.

Battle Isle

by L. S. Lichtmann

Battle Isle, from UBI Soft, is a quick-to-learn, easy-to-play, but hard-to-master tactical wargame which offers the armchair general an unusual variety of combat units to play with.

The *Battle Isle* set contains two game and introduction-installation disks. It can be played comfortably from a two-drive or awkwardly from a one-drive system, or from a hard disk. There is no copy protection. According to UBI Soft, *Battle Isle* will run on any Amiga with at least 512K of memory; it works fine on my 2000 under AmigaDOS 2.0. An instruction manual, equipment guide, command summary/quick-start guide, and a rather pointless "background" novelette complete the package. I found the documentation complete but poorly organized.

Most tactical wargames concentrate on land combat. *Battle Isle* is nearly unique in including land, air, and sea units. Over 20 types exist, including robot infantry; various grades of tank; air defense units; mines; land, air, and sea transport; jets and helicopters; submarines, battleships, and aircraft carriers. Depots with extra equipment, factories to produce new units, energy crystals to fuel production, and a half-dozen land and water terrain types round out the paraphernalia of *Battle Isle*.

Battle Isle can be played either against the computer or another human. An unusual split-screen arrangement is used, with each side having access to a complete, independently-scrollable copy of the tactical map. Game

play occurs in a series of alternating movement and combat phases. Again most unusually, one side will be conducting its movement phase while the other is setting up attacks. Phases are swapped only when both sides have requested it.

The simultaneous-play feature works well and makes for speedy games. Unfortunately, it has also caused the designers of the game to bypass the standard mouse-and-menu Amiga interface. All *Battle Isle* commands are executed from the joystick. Putting

the cursor over the correct hex cell with the joystick can be a frustrating experience. While prob-



ably not practical for a two-person game, I wish the designers had provided a standard interface option for one-person games.

Battle Isle comes with 32 codeword-selected scenarios in two sets of 16, each in order of increasing complexity. Only one of the sets is available in one-person games. The standard operation of the game appears to provide the codeword for the next scenario only after the current one has been successfully completed, although the review copy of the game I worked with had a complete list. I have some qualms about this. Some of the one-player scenarios I examined seemed so unbalanced that I question the likelihood of any player managing to work through all 16.

Despite minor problems, *Battle Isle* is a wonderful game. The rules are simple enough that you can be enjoying your first scenario within the first half-hour after opening the box—not a standard attribute of wargames. At the same time, the rich selection of units and the complex nature of some of the later scenarios guarantee long-lasting play value.

Wonderland

by Miguel Mulet

What a wonderful way to spend an afternoon—sitting idly by a stream, reading books with your older sister. That may seem great now, but probably sounds pretty boring if you're a young gal with a vivid imagination. Thus, you fall asleep and begin to dream of another world.

Wonderland is a computer adaptation of Lewis Carroll's classic story, *Alice's Adventures in Wonderland*. The player assumes the role of Alice, on a journey through her imagination, which starts in pursuit of a white rabbit. A working knowledge of the story is helpful, but definitely not required to play the game. As a matter of fact, the game is only loosely based on the story, so if you try to make the game progress exactly like the text, you'll get yourself into trouble.

The game interface is an interesting combination of new and old. If you want, you can play the game completely as an old-styled text adventure. Opening other windows, however, adds other important features. A graphics window visually shows what is described in the text, while an inventory window can show you what you're carrying at a glance. Other windows include a compass window which allows you to maneuver Alice around without typing, along with an excellent hypertext help window which you can use to lend a helping hand when you need it most. One of the nicest features is the map, which

automatically maps and draws out where you've been. This is the first adventure I've ever played where you didn't need a pencil and paper. The player can open only the windows he wants, and can tailor the game interface to a particular playing style. The only drawback to this approach is that the screen can get quite cluttered with several windows open.

Game graphics vary, depending upon which screen resolution is chosen at the beginning of the game. There are two 16 color modes, a lo-res and an interlaced hi-res mode. Both modes show the color graphics well, but the interlace in the hi-res mode can be annoying. The other two modes include a four-color mode, and a monochrome mode without graphics. The most usable interface seems to be the 16-color lo-res mode, but the windows and menu bars seem a bit grainy.

On a stock Amiga 500, 1000, or 2000, gameplay from the disks is unbearably slow. Installing the game on a hard disk greatly increases the speed of the game because the graphics can be decompressed prior to playing. The hard disk installation program which came with the game didn't work with my 65MB hard drive until I repartitioned it into two smaller drives. The four-disk set is copy protected using the "key word lookup" system, so keep the manual handy.

Overall, *Wonderland* is a great adventure game. Novice players will enjoy all the niceties of the multiple screens, while veteran game players will probably enjoy playing the game as a text adventure using the excellent parser.

DIVERSIONS



Chuck Rock

by Miguel Mulet

Welcome to the Stone Age! Although you won't find Fred and Wilma Flintstone, Chuck Rock lives in a community pretty much like Bedrock. It seems that back in the Stone Age, men didn't behave too differently from the way they do today. At least, Chuck Rock doesn't. Glued to the television while his wife does the laundry, he barely notices when a fellow caveman kidnaps his wife. So off Chuck must go, fighting off pterodactyls, dinosaurs, and other hazards of 1,000,000 B.C., in hopes of rescuing his wife Ophelia. Care to join him?

Chuck Rock is one of Virgin Games latest entries into the arcade market. You control Chuck Rock, a caveman intent on rescuing his kidnapped wife. Using a joystick, you move Chuck through five levels of Cromagnon dangers. Chuck's a big fellow, so not only can he pick up and hurl rocks at his enemies, he can use his large beer belly to "butt" his enemies off the screen.

Gameplay is rather simple; all the player has to do is avoid the many hazards which hurl themselves toward Chuck. If you're picked on by a dinosaur, your health level decreases as repre-

sented by the size of your heart at the lower left portion of the screen. To restore your health, capture any of the pulsating hearts found throughout each level. Points are accumulated by destroying your foes, as well as eating many of the prehistoric culinary delights found along the path leading to Ophelia.

Graphics are fairly well done, with smooth scrolling screens and fairly good sound effects. The soundtrack is modern, but can get tedious after a while. You can turn off the soundtrack and select the sound effects, but there is no provision to completely turn either off, aside from turning down the volume control on your monitor. The game comes on two copy-protected disks, with a short but adequate manual.

Chuck Rock is a "cute" game. It plays much like a cartoon, especially when the sound effects are used instead of the soundtrack. The game is extremely easy to learn, and it's fairly easy to progress through each level. As such, the game will probably hold the interest of beginning gameplayers, while advanced gamers may find it less of a challenge. Perhaps younger audiences would appreciate the game better, but at \$49.99, I would try before you buy.

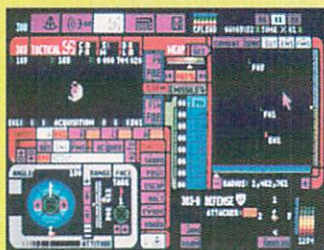
Beat off the bullies with your beer belly.



Rules of Engagement

by L. S. Lichtmann

Space war games have a long and honorable history on computers. The most recent one to cross my orbit is *Rules of Engagement* (ROE). ROE is a game of starship fleet combat, with features that make it utterly unique. ROE consists of two floppies and a dense, 212-page manual. The manual gives clear instructions for all game functions, some background color on the ROE/Breach universe, and a "quick start" tutorial. A 1MB Amiga is required. On older machines having only 512K, all Workbench windows will have to be closed to run ROE. The game runs perfectly under AmigaDOS 2.0, and comes with its own hard disk installation utility.



The player takes the role of fleet commander, doubling as captain of the fleet flagship, and is assigned a mission, or scenario, with one or more objectives to be met. Typical objectives are the destruction of a specified fraction of an enemy fleet, or the capture of an enemy base. The commander's resources are the fleet's ships and possibly one or more friendly supply bases. To employ these resources, the player issues orders to subordinate captains, for instance, "resupply at outpost." Each subordinate carries hidden ratings in ten characteristics, ranging from aggressiveness to loyalty, which affect performance. A captain with

a high rating in ingenuity, for example, knows more about tactics. Working only from hints in the captains' dossiers, the fleet commander must properly match captains to tasks. Similarly, enemy nations or races each have distinctive behavioral characteristics, and the fleet tactics must be shaped to fit the limited information available.

As ship captain, the player must direct the flagship in space flight, determining destinations, or course and speed. ROE handles acceleration, velocity and distance in a realistic manner. Communication is correctly limited by the speed of light. Over the tremendous reaches of space in which ROE takes place, message delays consequently become a major factor. The great distances also mean that, despite very high speeds, much time is spent just getting places. The ability to accelerate the passage of time on the mission clock makes this bearable.

The player must also fight the ship. Combat, like movement, takes place in real time, rather than in rounds. Now real-time combat in computer games is a delicate thing, because a second is a short time to a human but an eternity to the CPU. This has led to some grotesquely unbalanced games. ROE's system of subordinate ships and captains works to keep play balanced, by allowing other ships to support the flagship in combat. Even one-on-one combat, however, in ROE appears reasonably balanced, with opposing ships under the same limits as the player's own, and not benefiting excessively from having the rapid reactions of the computer behind them.

ROE is a module of Omnitrend's "Interlocking Game System." If *Breach 2* is present, ROE will automatically load and run special *Breach 2* scenarios to resolve ship boarding actions and the like. Effectively, ROE and *Breach 2* become components of one huge game. However, according to Mindcraft, only the version of *Breach 2* distributed by Mindcraft (V2.0) will work with ROE in this way. Owners of the older versions can upgrade for

\$14.95 plus the original disks or manual cover. The upgrade is worthwhile on its own for the improved interface, revised manual, and additional missions.

ROE comes with 21 missions, including five with linked *Breach 2* scenarios. Each can be played at three levels of difficulty. Like *Breach 2*, ROE comes with a mission builder. The individual components of the mission (ships, captains, aliens, and stellar systems) may also be created, and can be "stockpiled" and re-used as desired in creating new missions. The alien builder is particularly entertaining because of its "mix and match parts" facility for producing pictures of new alien races. Missions which link to *Breach 2* scenarios can be produced, although the *Breach 2* scenario builder is not included with ROE. If you have a favorite *Breach 2* squad leader, he or she can be imported into ROE as a fleet commander.

As a strategy game, ROE forgoes state-of-the-art graphics and sound. However, the interface is attractive, and a marvel of efficiency. In theory, it's the interface presented to a captain in the ROE universe for computer control of the ship, with touch-sensitive displays replacing mechanical buttons. Consistent use of color identifies control functions and groups related controls. Area overlays allow the myriad actions necessary to control ship and game to be managed out of a small set of screens with logically distinct functions. Since most of us are unlikely to have computers with touch-screen capability, the mouse pointer substitutes for the captain's finger. There is also set of equivalents for play from the keyboard.

I can think of a few things I'd love to see in future versions of ROE. The ship builder might be fleshed out into a full ship design system, allowing one to test custom fleets in missions. More ambitiously, a two-player modem option would be great. Nonetheless, ROE is a very good game. I recommend it to strategy gamers.

product information

Bill Elliott's NASCAR Challenge
Price: \$49.95
Konami, Inc.
900 Deerfield Parkway
Buffalo Grove, IL 60089-4510
(708) 215-5111
Inquiry #230

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(415) 332-8749
Inquiry #234

Wonderland
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Virgin Games
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Irvine, CA 92714
(714) 833-8710
Inquiry #235

Chuck Rock
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Virgin Games, Inc.
18061 Fitch Avenue
Irvine, CA 92714
(714) 833-8710
Inquiry #236

Rules of Engagement
Price: \$59.95
Mindcraft Software
2341 205th Street, Suite 201
Torrance, CA 90501
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Inquiry #237

A mistake was made when laying out the code in Merrill Callaway's article "Using AReXX to Translate Number Bases and Character Codes". The lines of code for the program called Hex.rexx which can be found on page 53 of the February, 1992 issue will not work in their current form. They wrapped inappropriately and are missing important line breaks. We apologize for any inconvenience this may have caused. The following listing is the code in its proper form.

```

DO WHILE octnum~=""
    PARSE VAR octnum 1 num.k 2 octnum
    k=k+1
END

k=k-1
n=k-1
sum=0
DO i=1 TO k
    sum=(num.i)*(8**n)+sum
    n=n-1
END
binnum=c2b(d2c(sum))
RETURN binnum

/* convert binary to octal */
h2o: PROCEDURE
    PARSE ARG binnum
    k=1
    DO WHILE binnum~""
        PARSE VAR binnum 1 num.k 2 binnum
        k=k+1
    END

    k=k-1
    finalsum=""
    DO i=k TO 1 BY -1
        sum=0
        DO n=0 TO 2
            IF DATATYPE(num.i)='CHAR' THEN LEAVE /* stop when end of string */
            sum=(num.i)*(2**n)+sum
            i=i-1
        END
        finalsum=sum||finalsum
        i=i-1
    END
    RETURN finalsum

```

•AC•

of the mouse; a screen blanker helps you avoid screen burn in, which is caused by leaving your monitor on for long periods of time; and a virus checker helps check the spread of viruses, especially if several people use your machine or you download programs from bulletin boards frequently. I have just installed a combination mouse accelerator/screen blanker on some of my boot disks. It is called PBlanker, was written by Paul Hayter of Australia, is freeware, and is less than 700 bytes. What a deal! Even 512K users can afford to give up this little bit of memory. It is found on Fred Fish disk #537. Thus far, I have discovered no bugs in it. If you've never used a mouse accelerator before, this one will impress you with its speed. What you do to personalize your boot disks is limited only by your imagination, the amount of RAM you have, and your willingness to experiment. By using the commands discussed above, you can customize your disks and streamline them for further efficiency. Doing so will make your Amiga even more enjoyable to use.

•AC•

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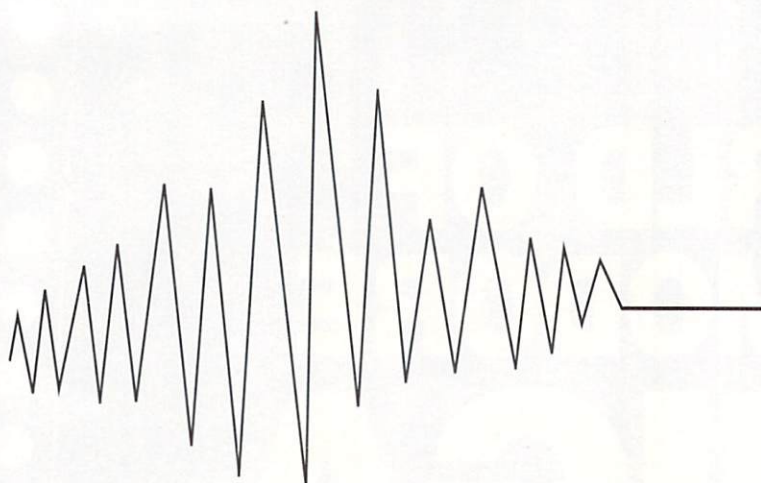
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Feedback

More Help for the Help Key

Rick Manasa's "Help for the Help Key," V7.1, page 28, was a good tip but it gave the impression that a stand-alone text viewer is required. Text readers are certainly adequate to the task, but for simple text display, good ol' AmigaDOS is also simple to use. Anyone savvy enough to prepare his or her own help display in ASCII format should have little trouble with the needed DOS script. Here is an example of how I implemented MachIII. The commands shown are for the ARP shell, but the Commodore shell will work as well.

First, in MachIII, the Help key macro looks like this:

```
\j\XAShell "con: 0/10/640/189 Keyboard shortcuts" FROM S:help
```

The \j brings the Workbench screen to the front. \XAShell opens a console window and runs the script file 'help' in the S directory. The dimensions of this console open a full-width window immediately below the Workbench title bar. It can display up to 23 lines.

Second, the 'help' script file looks like this:

```
TYPE RAM:help.scn
;help.scn is the ASCII file
;showing my keyboard commands.
;It was copied to RAM: during
;startup for speedy access.
```

```
ECHO "[1;22H"
;Move the cursor to line 2.
```

```
ASK "Press RETURN to exit"
```

```
;This will pause the script until
;the RETURN key is pressed. If
;more than one help screen was
;needed, I could use a response
;here to branch to the next
;screen or exit. In this
;example, there is only one screen.
```

```
ENDCLI
```

```
;Close the window when done
;viewing. This will leave the
;Workbench screen in front.
```

I made the commands Type, Echo, and Ask resident in the ARP shell so that the help screen pops up very quickly.

MachIII has the ability to change its configuration—key assignments and macros—according to the current screen or window. I don't know of another program which can assign a macro to the Help key. There are other hotkey programs in the public/shareware domain which could do this help key trick with a function key, but considering that this tip implements just one of MachIII's features, I wouldn't spend a lot of time looking for another. All I'm trying to say is that MachIII is a superlative program with many other features besides assigning hotkeys.

What I'm hoping here is to add a little to Rick's tip so that folks aren't chasing around for old copies of Gizmoz to get into action.

David J. Crockett
Wurthsmith AFB, MI

Thanks for offering help, Dave, to those wanting to provide help for the help key.—Ed.

PostScript Output Revisited

Writing in response to "Perfect Pages" by Joe Vidueira (V7.2), I doubt that this is the only letter you have received or will receive in response to that article. While I agree with Mr. Vidueira's position that the Amiga can easily yield PostScript quality without the need for a Postscript printer, I object to incomplete reporting. For those new to DTP on the Amiga, the impression inescapably given in the article is that *Professional Page* is the best option for yielding PostScript quality. *Saxon Publisher* and *PageStream* are merely mentioned while half a page of the article is devoted to *Professional Page*, as if it and *ProDraw* were the only feasible or usable DTP and structured art programs. What's this, "Tout Gold Disk Week"?

While Mr. Vidueira might have presented this skewed view because these are the programs he owns, I believe that you as editors owe it both to Amiga users and to developers like SoftLogik to ensure a more balanced and informative picture. If informing users of the ease of PostScript quality is the point of such an article, then as an owner of both *Professional Page* and *PageStream*, I believe the article is misleading. I prefer *PageStream* because of its ease of use and its ability to output PostScript fonts directly from the program, as well as CompuGraphic and *PageStream* formats. Talk of flexibility!

The lengthy discussion in the article concerning the need to fool around with the RAM cache is unnecessary in using

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PageStream; the program does this for you. Combining PageStream and my HP IIIP laser printer, or even my 24-pin dot matrix, I have access to a far wider variety of PostScript capability than ProPage offers, with much more flexibility in output. PageStream's use of custom drivers—one for PostScript printers and for Preference printer drivers—allows for much of the versatility.

Mr. Videira states that one needs a "PostScript output" and thus a PostScript printer, a PostScript cartridge or PostScript interpreter software if one is "serious about electronic publishing." Then he writes, "...you will not be able to take full advantage of your DTP program's ability to print structured graphics." Huh? Really? Both ProPage and PStream will output EPS, ProDraw, or AegisDraw files with full PostScript quality. Moreover, you can edit ProDraw, ProVector, or AegisDraw art objects within PStream as well as view EPS TIFF preview files, not possible in ProPage. Do you folks edit for accuracy of content or just for punctuation and grammar? Such omissions we don't need!

In addition, there was no mention of ProWrite's ability since version 3.2 to output CompuGraphic outline fonts, nor the arrival of *Final Copy*, which very inexpensively

provides the user with outline font output to any printer—albeit limited to a few proprietary fonts; nor was there a word about *excellence!*, which has done this for some years. If you publish such an article, one-sided because of an author's lack of experience, then you at least need to stress that there are other programs offering equivalent or alternative features. Otherwise, we readers are misled.

Since I'm sure it doesn't come through in this letter, I want you *Amazing* folks to know that you remain my Amiga-mag-of-choice. Thanks for being there.

Denis Darsie
Pittsburgh, PA

Benumbed from chasing down solecisms, zeugmas, and unorthodox orthography while facing the dreaded deadline, we let slip the fact that PageStream by SoftLogik and other DTP and WP programs also do what was claimed for Professional Page. Also the release of Final Copy was reported in "New Products" of the same issue, but we have only recently received a copy for examination. Your letter, composed with Final Copy, does indeed show PostScript-quality output. We do regret omitting in "Perfect Pages" a description of the capabilities of the other products you've mentioned.

Not unusually, Denis, yours is the only letter on this article that we've received by press time. Nevertheless, check out the publisher's axiom quoted in this month's editorial for an explanation.—Ed.

Data-Processing Amigas

Between what I do at home fooling around with my beloved A500 and all the interesting articles I read about what others do with their Amigas, I've no doubt that we have a wonderful computer. I work as the manager of data processing for a large public utility, where we do mainframe computing with over 2000 terminals and develop information systems intended for simultaneous use by hundreds of users. During the past few years, it has become possible to attach various PCs with downloading and uploading possibilities. The future holds the promise of many great things—distributed systems, workstations, client-server setups, and more. But Commodore has completely neglected the institutional workplace. Other firms will sell thousands, even millions, of computers that are inferior to the Amiga but will fit into mainframe systems. They will remain in business while Commodore will be selling to only a small market section.

After all, how can I convince my firm to

buy 2000 Amigas when all that's known about it, if known at all, is that it's a multimedia machine? Yes, planning for the future, we're considering the addition of 2000 workstations in the next four years, but I'm afraid that Commodore isn't even in the picture.

You, as a publication, are most enthusiastic about the Amiga, but without a serious view to the future, you may well be editing a magazine on some other subject, and I may end up with a bygone computer in my home.

Ben Stern
Haifa, Israel

We're sending a copy of your letter to Commodore.—Ed.

•AC•

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"Medley," A look at different types of music software available, by Phil Saunders

Vol. 6 No. 3, March 1991

Highlights include:

"NewTek's Video Toaster: A New Era in Amiga Video," a complete tour of the Video Toaster, by Frank McMahon
"Ultrasonic Ranging System," the sonar system project continues, by John Iovine
"Writing Faster Assembly Language," the discussion on how to speed up programs with assembly is completed, by Martin F. Combs

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"DCTV," manipulate millions of colors in real time, by Frank McMahon
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"The Amiga Desktop Publisher's Guide to Service Bureaus," by John Steiner
"M.A.S.T.'s Parallel Port SCSI Adapter," An inexpensive way to attach a hard disk to your A500, by Dan Michaelson
"All in One," programs for the beginner, by Kim Schaffer

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Highlights include:

"MaxiPlan Plus," a review by Chuck Raudonis
"CDTV," a comprehensive look at Commodore's hottest item
"HAM-E," a review introducing an excellent 24-bit color video board, by David Johnson
"Pixel 3D," review by John Steiner
"Professional Page 2.0," a review of a complete and truly professional desktop publishing package by Rick Broida

Vol. 6 No. 7, July 1991

Highlights include:

"Firecracker 24," a review of the latest in 24-bit video boards from Impulse by Frank McMahon
"Proper Grammar," a review of a comprehensive spelling and grammar checker by Paul Larrievé
"PageStream," another entry in the word processing/desktop publishing software line, by John Steiner
Also, extensive Summer CES coverage!

Vol. 6 No. 8, August 1991

Highlights include:

"AlterImage," create titling and special effects for your home videos in minutes, by Frank McMahon
"The Jerry Bryant Show," AC interviews Jerry Bryant, whose secret weapons for producing four hours of television a week are the Amiga and the Video Toaster
"Understanding Genlocks," by Matt Drabick
"Super 8 Meets the Amiga," easy film-to-video transfer with the addition of Amiga graphics, by Patrick Beck
"Looking Good with B.A.D.," a review of Centaur Software's disk optimizing program by Rick Manasa
Also, AC continues the extensive coverage of the Summer CES in Chicago!

Vol. 6 No. 9, September 1991

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"Why Should You Use the CLI?" three sound reasons to use the command line interface, by Keith Cameron

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"Audition 4," a review of a great sound sampler package by Bill Frazier
"Draw 4D Pro," a look at ADPSEC's latest update to Draw 4D, by R. Shammis Mortier
"Newsletter Basics," a tutorial on how to create professional newsletters using PageStream, by Pat Kaszycki
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"Memories," A500 memory expansion, by Sam Ammons
"Help for the Help Key," by Rick Manasa
"Getting the most from your RAMdisk," by Keith Cameron
"Installing and Using an IBM mouse with Your Amiga," by Phillip R. Combs
"DeFuzzie," a puzzle-solving program for brain teasers, by Scott Palmateer
"ZipTerm," learn how to use Console device and Serial device while creating a telecommunications program, by Doug Thain
Also: Coverage of Germany's Amiga '91 and London's World of Commodore shows.

Vol. 7, No. 2, February, 1992

Highlights include:

"Deduct That Interest with FC CALC," by Rick Manasa
"Finding the Right Multimedia Fit," by Dave Spittler
"Images in Dentistry," by Ken Larson
"Signmaking on the Amiga," by Karen Pringle
"Perfect Pages," how to produce PostScript-quality pages without buying a PostScript laser printer
Also: Coverage of Toronto's World of Commodore Show

Vol. 7, No. 3, March, 1992

Highlights include:

"The Miracle Piano Teaching System," by Christopher Piper
"DeluxePaint IV," by R. Shammis Mortier
"Semi-Automatic Painting and Animation," by Kevin Lude
"Screen Photography," taking pictures of your Amiga screen, by Pat Murphy
Also, a special section on Amiga Graphic Design and a look at some special Amiga Artists.

AC's TECH

AC's TECH, Vol. 1, No. 1

Highlights include:

"Magic Macros with ReSource," by Jeff Lavin
"AmigaDOS, EDIT, and Recursive Programming Techniques," by Mark Pardue
"Building the VidCell 256 Grayscale Digitizer," by Todd Elliott
"An Introduction to InterProcess Communication with ARexx," by Dan Sugalski
"AmigaDOS for Programmers," by Bruno Costa
—and more!

AC's TECH, Vol. 1, No. 2

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"Programming the Amiga's GUI in C: Part I," by Paul Castonguay
"Intuition and Graphics in ARexx Scripts," by Jeff Glant
"UNIX and the Amiga," by Mike Hubbard
"A Meg and a Half on a Budget," by Bob Black
—and more!

AC's TECH, Vol. 1, No. 3

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"CAD Applications Design—Part II," by Forest Arnold
"C Macros for ARexx?" by David Blackwell
"VBROM: Assembly Language Monitor" by Dan Babcock
"Programming the Amiga's GUI in C—Part II" by Paul Castonguay
—and more!

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"Programming with the ARexxDB Records Manager" by Benton Jackson
"The Development of a Ray Tracer—Part I" by Bruno Costa
"The Varifire Solution—Build Your Own Variable Rapid-Fire Joystick" by Lee Brewer
"Using Interrupts for Animating Pointers" by Jeff Lavin
—and more!

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Highlights include:

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"Implementing an ARexx Interface in Your C Program" by David Blackwell
"The Amiga and the MIDI Hardware Specification" by James Cook
—and more!

Back Issue Index

What have you been missing? Have you missed information on how to add ports to your Amiga for under \$70, how to work around *DeluxePaint*'s lack of HAM support, how to deal with service bureaus, or how to put your Super 8 films on video tape, along with Amiga graphics? Do you know the differences among the big three DTP programs for the Amiga? Does the ARexx interface still puzzle you? Do you know when it's better to you use the CLI? Would you like to know how to go about publishing a newsletter? Do you take full advantage of your RAMdisk? Have you yet to install an IBM mouse to work with your bridgeboard? Do you know there's an alternative to high-cost word processors? Do you still struggle through your directories?

Or if you're a programmer or technical type, do you understand how to add 512K RAM to your 1MB A500 for a cost of only \$30? Or how to program the Amiga's GUI in C? Would you like the instructions for building your own variable rapid-fire joystick or a 246-grayscale SCSI interface for your Amiga? Do you use easy routines for performing floppy access without the aid of the operating system? How much do you really understand about ray tracing? The answers to these questions and others can be found in *AMAZING COMPUTING* and *AC's TECH*.

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The Fred Fish Collection

Below is a listing of the latest additions to the Fred Fish Collection. This expanding library of freely redistributable software is the work of Amiga pioneer and award-winning software anthropologist, Fred Fish. For a complete list of all AC, AMICUS, and Fred Fish Disks, cataloged and cross-referenced for your convenience, please consult the current AC's Guide To The Commodore Amiga available at your local Amazing Dealer.

FredFishDisk581

FileLocator Searches up to 26 mounted devices for specific files using wildcard matches. Version 1.0, binary only. Author: Joe Rattz, Jr.

Neuro A neural network simulator which is able to learn patterns (e.g. letters) and recognize them. The program handles Hopfield and Backpropagation networks. Some examples are included. Version 1.0, binary only. Author: Berthold Ruland and Ulrich Wessner

Prism An ANSI editor that allows animations, and complete color control. It is used on many BBS's to create animated screens. Includes configuration editor, font control, and variable playback speed. Version 1.4, includes source. Author: Syd Bolton, Chris Timmerberg, Colin Vernon

StopWatch A stopwatch application with the precision of one millisecond (variable), which scans the joystick button. Full multitasking capability and intuition interfacing. Additional display screen for penlock output. A Rexx export for parameter/result handling and screen manipulations. Written in Modula2 and assembly language. This is version 3.05, an update to version 2.0 on disk 456. Binary only. Author: Christian Danner

StripANSI Removes all ANSI codes from a text file, so that only the bare text remains. It is useful for editing terminal program capture buffers. Two versions are provided: one for the command line (CLI) and one with a full intuition interface. The intuition version includes the ability to selectively strip certain ANSI codes, and generates a complete report. This is version 1.0, and includes full source in C. Author: Syd Bolton

FredFishDisk582

Diplomacy A classic strategy game loosely based on World War I. Designed for several players but can be played by as few as 2. The computer manages the game, resolving orders and graphically displaying the current status. Also provides map design capabilities for game variants. Version 2.0, shareware, binary only (source available from the author with shareware payment). Author: Steve Douhat

Questionator A program to create, update, and present multiple choice questionnaires. Version 1.07, shareware, source available from author. Author: Erik Von Raspator

VideoDat A very simple database to store information about your videos. Version 1.2, binary only. Author: Sascha Fengel

FredFishDisk583

ARcIt A complete and powerful program for text formatting, much inspired by the "nroff" utility on UNIX systems. This is version 1.12, includes source, and documentation in both English and French. Author: Denis GOUNELLE

ATbl A program for table formatting, somewhat inspired by the "tbl" utility on UNIX systems. Can produce printer output, with IBM graphics characters, or a regular ASCII file which can be read by any decent desktop publishing or wordprocessor program. This is version 1.0, binary only, with English and French documentation. Author: Denis GOUNELLE

CPUSet A small assembler utility to manipulate the various cache modes of the 68040, 68030 and 68020 processors. The copyback mode of the 68040 is also supported. The program can operate from the CLI with single or multiple parameters or from Workbench using a gadget. It is compatible with Kickstart 1.3 or V2.04 and requires no external libraries or setpath commands for the 68040 processor. This is version 1.5, an update to version 1.1 on disk 571. Includes source. Author: Nic Wilson

FullView A text viewer that uses gadgets at the bottom of the screen (thus can display text 80 columns wide), opens up to the full size of the Workbench screen, displays ANSI color sequences and can load files compressed by PowerPacker. Also shows IFF pictures (which can also be compressed). This is version 3.04, an update to version 2.02 on disk 412, binary only. Author: Jonathan Potter

StopWatch A program to time events, including intermediate events, with an overall accuracy of about 250 milliseconds (since the timing events are registered by human interaction). Version 1.0, binary only. Author: Joe Rattz, Jr.

SuperLock A very flexible security program that can lock any or all of the devices present in the system, making access to them impossible. It can also optionally lock the keyboard and the mouse. Version 1.01, requires a.r.p. library. Binary only. Author: Jonathan Potter

SuperSpell A global spelling checker that checks your spelling no matter what program you are typing under. Can be used to check spelling when typing on a BBS, in a text editor, or anywhere else. Comes with a 9000 word dictionary, which you can edit, add to or replace completely. Version 1.1, binary only. Author: Jonathan Potter

SysInfo

A program which reports interesting information about the configuration of your machine, including some speed comparisons with other configurations, versions of the OS software, etc. This program has been very popular with many users and has been fully updated to include many new functions. This is version 2.56, an update to version 2.53 on disk 571. Binary only. Author: Nic Wilson

TPtEdit Agadtools template editor that is able to generate standalone C source code and does generate its own surface. This is version 2.00 beta, an update to 1.00 on disk 480. Requires AmigaDOS 2.0. Includes source. Author: Matt Dillon, enhancements by Koessi

WorldTime

A clock that has two states. In the first state, it has a small window which shows the current time and also the current time in another city in the world. In the second state, a large window shows the time in 84 cities throughout the world. The list of cities is configurable. Version 1.31, includes source. Author: Jonathan Potter

FredFishDisk584

DataPlot DataPlot is a very special function "plotter". It does not really plot the data, but it creates a "dat" file containing the function which you typed in and the corresponding values that have been calculated. The "dat" file can then be read in by "MultiPlot" (from AmigaLibDisk 467), so that you can manipulate the data with much more powerful functions than most normal function plotter programs offer. This is version 1.00, Public Domain. Source in C included. Author: Stefan Zeiger

Electron Electron World is a cellular automaton described in "Spektrum der Wissenschaft" ("Scientific American") March 1990. This is version 2.01, an update to version 1.20 from Wizard Works 1. Shareware US\$10. Binary only. Author: Stefan Zeiger

EnvPrint EnvPrint is a handy tool for printing envelopes for letters. Just type in the addresses or load them from disk, and EnvPrint will organize the printing job for you. Version 1.20, Shareware US\$10. Binary only. Author: Stefan Zeiger

ExeC ExeC is a small utility for executing CLI/Shell Commands from the Workbench. This is version 1.10, Freeware. Binary only. Author: Carsten Rautau

IFFWizard IFFWizard shows all chunks of an IFF file together with a short description and the chunk length. It knows over 170 Chunk-IDs and Type-IDs and descends recursively into FORM-, LIST-, CAT- and PROP-chunks. This distribution also contains a companion file with a list of all chunk- and type-IDs known by IFFWizard. This is version 1.10, Freeware. Source in C included. Author: Stefan Zeiger

RevHead REVHEAD is a program for generating info files for your existing source codes, executables. The info files are stored in a separate file. Features Kick-WB2.0 environment. Version 1.05, Freeware. Binary only. Author: Carsten Rautau

SpLi A program for generating spherically shaped figures. Algorithm taken from "Spektrum der Wissenschaft". Version 1.00, Public Domain. Includes C source code. Author: Carsten Rautau

TextStat An extended "wc" (word count) program. It has all features of the SAS-C "wc" with the ability to count the frequency of ASCII characters, alphabetical characters and many other things in a text. Version 1.10, Freeware. Source code included. Author: Stefan Zeiger

TurboLife A quite comfortable implementation of the cellular automaton "Life". Version 2.01, Update to version 2.00 from Wizard Works 1. Shareware US\$10. Binary only. Author: Stefan Zeiger

WizardClock The ultimate workbench clock. Features a nice WB2.0 design, easy-to-use intuition interface, 3 languages, analog clock, digital clock, calendar, alarm, and the ability to "read" the date and time with the "SPEAK" device. Version 1.20, Public Domain. Source in C included. Author: Stefan Zeiger

WizardFiler This nice file requester is an enhanced version of Anders Bjerrin's "FileWindow" from disk 337. It is very comfortable and has a nice WB2.0 design. Version 1.01, Source code in C included. Public Domain. Author: Stefan Zeiger, Anders Bjerrin

FredFishDisk585

RayDance Demo version of the RayDance raytracer. This is a fully functional version except that it requires clicking on a continuation prompt after every 15 minutes of rendering time and the total number of polygons and spheres in a scene is limited to approximately 1400. Includes both the software and hardware floating point versions. Requires a minimum of 1 Mb of ram. Version 1.0, binary only. Author: Charles Comstock

FredFishDisk586

AzMake A work environment for AztecC. You can compile, assemble, link, print, etc. your programs by clicking a gadget. Typing in the Shell is out. Version 1.1, shareware, binary only. Author: Christian Friedel

BlackHole A little utility that acts like a "super-trashcan" and adds an appicon to the Workbench backdrop drop window. As such, BlackHole requires AmigaDOS 2.0. You drag files or drawer icons onto the BlackHole and you will then be asked if you really want to delete the items. Version 1.0, binary only. Author: Parsec Soft Systems

Contour4D Creates colored, altitude mapped objects for Sculpt4D. Two IFF brushes are used: one to supply the color for the object and a second which, by its color intensity, gives an altitude for the object at that point. Objects are optimised so that large areas of one color and height

become a single larger set of faces. Objects are output in "Sculpt" scene format. Works with ordinary, HAM or Extra-HiBrite brushes. Any palette colors can be omitted from conversion and all palette colors can be of different textures. Full intuition interface. Version 1.5, shareware, binary only. Author: Bruce Thomson

LSlabel

A simple label printing utility. Very powerful as the user can must do a lot of settings by himself. Features include variable linefeeds (in 1/216 inch steps) between 21 independent lines and freely configurable printer codes. Version 1.1.2, an update to version 1.0 on disk 478, binary only. Author: Stefan Berendes

Opus8

A program to convert Macintosh 8-bit sounds to Amiga 8SVX format. Includes source in PCQ Pascal. Author: John A. Safranek

TheGallows

A hangman type game with over 3000 words. The objective of the game is to fill in the blanks and guess the word before the prisoner is hung, after the seventh miss. New words can be added to the list of words to guess, up to a maximum of over 9450 words. Version 1.0, shareware, binary only. Author: Joe Rattz, Jr.

Tree4D

Creates 3D branching trees for Sculpt4D complete with leaves. Many aspects of the shape and design of the trees are modifiable, including color and detail level. Objects are output in "Sculpt" scene format. Full intuition interface. This is version 1.5, shareware, binary only. Author: Bruce Thomson

FredFishDisk587

ConLib A run-time reentrant library, developed with the purpose of making life easier for application programmers. It contains functions to format and display text, accept keys/messages, strings, or numbers, and to handle cursor and screen control, among other things. Version 2.00, includes source in asm. Author: Bjorn Reese

GMC

A console handler with command line editing and function key support. GMC provides extended command line editing, function key assignment in four levels, extended command line history, online help for functions in the handler, and an iconify function. Also includes an output buffer (dump to printer and window), filename completer, script function, and function prompt beeper, pathname in window title, close gadget for KS2.0, etc. This is version 9.11, an update to version 9.8 on disk 434, with some new features and some bug fixes. Shareware, binary only. Author: Goetz Mueller

TMKBP The Multi-Kickstart Board Project lets you build a Kickstart ROM switcher compatible with the Amiga 500 and Amiga 2000. It will hold up to 3 versions of Kickstart, and can be switched between via an external switch. If software does not work under Kickstart 2.0, simply flip the switch and reboot under 1.3. It includes full step-by-step documentation, as well as schematics, and diagrams. This is revision 3.1. Author: Neil Colto and Michael Ciancone

FredFishDisk588

FifoLib FIFO is like PIPE, but is based on file library rather than its own implementation. Fio library is a general file library implementation that supports named fifos, writing to a file from a hardware exception, multiple readers on a file with each getting the same data stream, efficient reading, and automatic or manual flow control. Programs that require non-blocking IO can access one side of a FIFO: connection via the fio library instead of the FIFO device. Version 3.4, an update to version 3.1 on disk 519. Includes source code. Author: Matt Dillon

FracBlank A Commodore screen blanker written for AmigaOS release 2.x. When running will blank the screen and start to draw a real time fractal such as described in the September 1986 issue of Scientific American. The resulting images may remind you of spiders' webs, lace or even the Chladian patterns formed by grains of sand strewn across a vibrating surface. This is version 1.8, an update to version 1.4 on disk 535, and includes numerous bug fixes and enhancements (such as multicolor mode). Includes source in C and assembly language. Author: Olaf Olsen Barthel

MandelSquare Yet another program to generate images from the Mandelbrot set, different from most implementations in that it runs only under AmigaOS 2.x, requires an 020/030/040 CPU and a numerical coprocessor. The calculation routines were written in 961 assembly language for maximum speed and precision. Also includes a "movie mode" which allows generation of long camera zooms to spots in the Mandelbrot set. The resulting animations can be saved in ANIM-opt-5 format, allowing to replay them using "MandelSquare" or standard animation software. Version 1.3, includes source in C and assembly language. Author: Olaf Olsen Barthel

FredFishDisk589 A game for telecommunication program written for AmigaOS release 2.x (Kickstart 37.175 and Workbench 37.67 or higher required). Features include total configurability, full ARexx control, Xpr-transfer support, filetype-dependent after download, cut & paste point-and-click or screen, auto upload and download, scrollable review buffer of unlimited size, solid and fully featured VT100/VT220 ANSI emulation, optional fast atomic terminal emulation, hotkey support, powerful phonebook and dialing functions, ability to save and print the contents of the screen as IFF-ILBM or ASCII file, full overscan and screen resolution support (new ECC screen modes included), asynchronous operation and a

lot more. Comes with seven Xpr-transfer libraries (ascii, jmodem, kermite, quickx, xmodem, ymodem & zmodem) and documentation both in German and in English. This is version 1.9c, an update to version 1.8a on disk 534. Includes full source in C and assembly language. Author: Olaf Olsen Barthel

FredFishDisk590

Crystals A computer simulation of three-dimensional crystal lattices which permit you to observe stereoscopic views of any of the fourteen Bravais lattices with a variety of orientations, while rotating and positioning them in real time. The frame rate is between 10 and 30 frames per second, depending upon the options selected and the Amiga being used. It is primarily intended for educators and students in physics, chemistry, and geology. It is most suitable for use in conjunction with a course in solid state physics, or a course in crystallography. Version 2.15, shareware, binary only. Author: David McKinstry

EquiLog

A Master-Mind type game. Version 1.36, binary only. Author: Pierre-Louis Mangard

MICE

My Image Code Editor. MICE generates source code from standard IFF pictures. Can generate either assembly or C source. Version 1.2, binary only. Author: Pierre-Louis Mangard

Seeker

A find file type utility for AmigaDOS 2.0 with more features than most such programs. Intuition interface supports AmigaDOS and Unix-like wildcards. Several operations can be performed on found files. Version 1.2, shareware, binary only. Author: Donald Lloyd

SuperDuper

A very fast disk copier and formatter. Can make up to four unverified copies from a ram buffer in 36 seconds. Verified copies from a ram buffer take 67 seconds for one destination drive, plus 34 seconds for each additional destination. This is version 2.01, an update to version 2.0 on disk 561. Now includes a program to fine tune some fields in the track disk device, and a "no click" type program. Binary only. Author: Sebastiano Vigna

FredFishDisk591

Flyspeck A very tiny font, which is more of a gimmick than a utility. Perhaps the tiniest font available for the Amiga. Author: Sascha Wildner

MonopolySc

Source code of the immensely popular Monopoly game distributed in binary form on disk 251. Author: Ed Musgrove

Vim

Vim (Vi IMitation). A clone of the UNIX text editor "vi". Very useful for editing programs and other plain ASCII text. Based on Stevie (disk 256) with many enhancements such as multi-level undo, command line history, improved command line editing, full compatibility (except Q and Z commands), command typeahead display, command to display link buffers, unlimited line length, ability to edit binary files, file name stack, support for many QuickFix, shows current file name in window title, etc. Internal structure changes have been redesigned for optimal speed and memory usage. Version 1.14, includes source. Author: Bram Moolenaar, et al.

FredFishDisk592

CirclesUp A simple little two player game where circles fly into the playing area from both sides of the screen. When each player presses his corresponding ALT key they fly to the top of the screen and stop moving when they hit another circle or the border. The object of the game is to connect a specified number of circles of the same color. Version 1.0, includes source. Author: Jason Lowe

EZasm

Combines parts of "C" with 68000 assembly language. Produces highly optimized code. Supports all 20 functions and more. Comes bundled with AS8k and Blink, for a complete programming environment. This is version 1.6, an update to version 1.5 on disk 484. Includes example source and executable files. Binary only. Author: Joe Siebenmann

LAZI

A graphic interface for the archive utilities Lharc, Arc, and Zoo. LAZI will add, delete, extract, and update single or multiple files, list and test archives, allow you to read extracted readmes/docs or any other ascii file, save a configuration file that holds the locations of your work-directories, archive utilities, and its position when iconified. At least 1 Mb of RAM is recommended. Version 1.0, binary only. Author: Mark W. Davis

NumbersUp

A simple little game where numbers fly into the playing area from both sides of the screen. When you click the mouse button, then they fly to the top of the screen and stick there. The score is determined by what numbers the current number lands near, and the game ends when the same numbers end up adjacent to each other. Version 1.2, includes source. Author: Jason Lowe

PublicService

A screen clock intended for those whose day revolves around a series of breaks; this one counts down the minutes to each break, and complains if you're at the Amiga outside working hours! All break times are contained in a small text file (example provided). Times are expressed in words rather than numbers. Includes source. Author: Michael Warner

QuickTrans

Freely redistributable replacement for mathtrans library, containing faster versions of all 17 functions, with almost the same accuracy. Trigonometric functions are 2 to 2.5 times as fast.

Star Logarithmic, exponential and hyperbolic functions are about 3 times as fast. Version 1.0, binary only. Author: Martin Combs

Three functions that you can easily incorporate into your programs to draw stars. Includes source. Author: Jason Lowe

FredFishDisk593

AnalRim

An integration of the AnalytCalc spreadsheet (disk 495) and the RIM-5 relational database management system (disk 143). Integrates a spreadsheet with hundreds of functions and 18000 by 18000 cell address space, with a complete disk-based DBMS, and functions permitting one to move relations or selections of relations in either direction between spreadsheet and data-base. In this way, large relations can be stored on disk, yet accessed as needed in the spreadsheet, from whence they can be computed with or plotted. The command language of RIM is fair-ly close to SQL, and documents for it are included. Also supports GnuPlot to provide flexible plotting. A minimum of 2Mb of memory is recommended, of which 750K must be contiguous. Because the full distribution would not fit on a single disk, it has been split onto two disks, with disk 593 containing the executable and needed "keypad" command files, and disk 594 containing the source and documentation. Author: Glenn C. Everhart, et al.

Elements

Very nice interactive display of the Periodic Table of Elements. Includes general row and column information, plus a test mode where the program asks specific questions about the selected element or row/column. This is version 2.3b, an update to version 2.3 on disk 384, with some minor AmigaDOS 2.0 fixes, a new icon, and Swedish and German data files. Binary only. Shareware. Author: Paul Thomas Miller

LHA

A very fast archiver that is compatible with MS-DOS LHArc V1.13 and LHA V2.13, as well as the Amiga LHArc. LHA is very memory efficient, has been written with stability and reliability in mind, has carefully optimized compression and decompression routines, is multitasking, green, and pure, handles multiple volume archives (registered version only), and more. Version 1.11, an update to version 1.0 on disk 577. Shareware, binary only. Author: Stefan Boberg

PicPak

A package of general purpose picture loading and manipulation functions, including IFF-ILBM loading, ViewPort color control (including fades and color cycling), and frames. Will also load and display SHAM images. Version 1.3c, includes source. Author: Paul Miller

PictSaver

A small utility that allows you to cut rectangular portions of any screen and store them on disk as IFF-ILBM files. Also allows easy saving of windows and entire screens to disk. This is version 2.4, an update to version 2.0 on disk 543. Binary only. Author: Preben Nielsen

WindowTiler

AWB2.0 commodity similar to help that cascades, tiles, etc workbench windows. Contains 7 ways to arrange the windows. Does not affect non-sizeable windows (so dock windows, etc don't get shifted). This is version 1.1, binary only. Author: Doug Dyer

FredFishDisk594

AnalRimSrc

An integration of the AnalytCalc spreadsheet (disk 495) and the RIM-5 relational database management system (disk 143). Integrates a spreadsheet with hundreds of functions and 18000 by 18000 cell address space, with a complete disk-based DBMS, and functions permitting one to move relations or selections of relations in either direction between spreadsheet and data-base. In this way, large relations can be stored on disk, yet accessed as needed in the spreadsheet, from whence they can be computed with or plotted. The command language of RIM is fair-ly close to SQL, and documents for it are included. Also supports GnuPlot to provide flexible plotting. A minimum of 2Mb of memory is recommended, of which 750K must be contiguous. Because the full distribution would not fit on a single disk, it has been split onto two disks, with disk 593 containing the executable and needed "keypad" command files, and disk 594 containing the source and documentation. Author: Glenn C. Everhart, et al.

FredFishDisk595

ClibSave

A small hack for saving the actual contents of the clipboard (unit 0) to a file. It may only be used from shell. This is version 1.0, includes source. Author: Uwe Rohm

HOW

A game where the aim is to get a ball from the start square to the exit square, while trying to turn all squares to the same color. As the ball moves across a square, the color of the square changes in a cyclic order of four colors. Also includes a leveleditor program. Freeware, binary only. Author: Peter Handel

IcorSwap

A small utility, which allows you to quickly and easily swap the colors of your icons between the older 1.3 and the new 2.0 style. Version 0.14, includes source. Author: Uwe Rohm

P-Compress

A gimmick-free and very easy to use program for most compression requirements. Uses the latest LZH compression algorithm. Can handle single files, whole drawers, disks, or selected files or types of file within drawers and disks. In PACK mode it can consolidate files into less space than whole-disk compression tools or archivers. This is version 2.1, an update to version 1.2 on disk 565. Freeware, binary only. Author: Chas A Wyndham, LZH code by Barthel/Krekel

P-Reader

An all purpose reader that displays texts, pictures, animations and sounds, which may be uncompressed or compressed with P-Compress. Texts can include embedded static or animated illustrations and sounds. This is version 5.2, an update to version 5.1 on disk 543. Freeware, binary only. Author: Chas A Wyndham

P-Writer

A text editor with special facilities for inserting text color and style changes and for preparing illustrated texts for P-Reader. Version 3.2, freeware, binary only. Author: Chas A Wyndham

FredFishDisk596

RayShade

Rayshade is a ray tracing program ported to the Amiga from UNIX. Rayshade's features include nine types of primitives (box, cone, cylinder, heightfield, plane, polygon, sphere, superquadric, flat triangle and Phong-shaded triangle); composite objects; point, directional, and extended (area) light sources; solid procedural texturing and bump mapping of primitives; antialiasing through adaptive supersampling; arbitrary linear transformations on primitives; and more. This is version 3.0 patch level 5 and includes sources in C. The modifications for Amiga & SAS-Care distributed as diff files. Some example input files are also included.

Author: Craig E. Kolb, Amiga Port by Martin Hohl

ToolTypeWatch

Helps you if you are searching for ToolType-keywords of a certain application. It patches the FindToolType() and the MatchToolValue() functions of the icon library and records all calls to these functions along with the given arguments. This allows you to discover all keywords supported by an application as ToolTypes. Version 0.7, includes source. Author: Uwe Rohm

FredFishDisk597

GoLD

Game of Life - Duo. A "Game of Life" extension. This one uses Two strains of cells, allows free redefinition of the rules, and contains the original game as a subset. This is version 1.0, includes source in C and assembly. Author: Andreas Neubacher

IconTools

Four programs to manage some aspects of icons using the Intuition interface and allowing one operation on many icons at once by shift-clicking. FloatIcon 1.0 sets an icon so that the Workbench can freely place an icon in a drawer window. ReplaceTool 2.04 sets a new default tool for project icons using the Workbench icons or a file requester. ReplaceImage 1.01 changes the image of icons to that of another. SwapColors 1.01 swaps colors 1 and 2 in icon images. The last two programs will be useful for converting to the "new look" of Workbench 2.0. Includes source in JForth Professional 2.0. Not related to IconTools on disk 284. Author: Richard Mazzarisi

NewList

A very fast and powerful "list" and "is" utility. It features fast algorithms, custom print and date formatting, 3 different types of recursion, a hunt mode, character filters, a pager, ANSI, ENV, support, and tons of sorts and options. This is version 6.0, an update to version 5.0 on disk 513. New features include complete WB2.0 support and compatibility, including full link handling, and some bugfixes. Binary only, by Phil Dietz

ScudBuster

A Scuds vs. Patriots missile game. This game is a combination of the old Missile Command, Battleship, and Strategic games rolled into one. Set up your strategy and launch missiles at your enemy, while he launches missiles at you. Version 0.8, binary only. Author: Howard Dorich

ShadowMaster

A modular screensaver system for AmigaDOS 2.0. It allows you to choose a saver module to be used at blank time, and to build utility modules that may (or may not) choose the actual saver. Version 3.7.7, includes partial source. Author: Mike Meyer

ThinFonts

Seven fixed width fonts in two designs to get more characters on your screen. Made for usage on hires interlaced screens and A2024 modes. Author: Dirk W. Reig

FredFishDisk598

ANSI A small CLI utility to convert C source between ANSI and Kernighan and Ritchie function definition formats. Also allows generation of prototypes. No Amiga extensions and should be portable. Version 1.0, includes C source. Author: Andrew Martin, SciTech Software

DX100

Editor/Librarian for the Yamaha DX100, DX21, and DX27 synthesizers. Provides voice editing and librarian features similar to the FB-01 Editor/Librarian. Version 1.25. Author: James M. Smith

FB-01

Editor/Librarian for FB-01 Voices and Configurations. Has graphical display of voice envelopes to improve the editing process. The librarian provides the means to organize and store a bank of voices or configurations on disk. Send customized banks to a Yamaha FB-01 or receive banks from this instrument. Print hardcopy of voices and configuration banks. Version 1.25. Author: James M. Smith

Parse

Assemble keyword command line parsing routine. Supports mixed case and unambiguous abbreviations in the command line. The parse routine can be used to add keyword control to any program in an easy manner. Version 1.2, includes C source. Author: Andrew Martin, SciTech Software

TX81Z

Editor/Librarian for the Yamaha TX81Z and DX11 synthesizers. Provides voice and librarian features similar to the FB-01 Editor/Librarian. Includes a Performance Editor and a Librarian. Version 1.23. Author: James M. Smith

FredFishDisk599

DBuff Source code with a small demo, to implement double buffering by adding a second ViewPort to an Intuition screen. Version 1.0, includes C source. Author: Andrew Martin, SciTech Software

InputView

A small tool for AmigaDOS 1.3 to record the input stream at a given time and then insert the recorded events again later, instead of the user input. Version 0.24, includes source. Author: Uwe Rohm



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MailMerge

Utility to perform simple mail merge using the LaTeX letterstyle. Simply requires a letter in .tex format and a file of addresses. Each of these is inserted, in turn, into the text file which is run through LaTeX and then through the printer driver. Version 1.0, includes C source. Author: Andrew Martin, SciTech Software

McG

A demonstration version of a commercial molecular graphics program. Stick representations of molecules may be rotated, translated and scaled on screen and changes may be made to structures. "Space filling" pictures may also be generated using quick preview, shading, or ray-tracing. The demonstration version allows only one of two structures to be displayed and does not allow space filling, though some sample space-filled structures are included. Version 1.03D, binary only. Author: SciTech Software

PrLabel

Utility to print user printer labels. Supports 3x6, 2x8 and 2x7 A4 label sheets. The program may easily be modified for other formats. Also serves as a demonstration of using STL for gadgets and menus. Version 1.1, includes C source. Author: Andrew Martin, SciTech Software

RxShell

Set of routines to form an additional layer between the programmer and ARexx. RxShell sits on top of rxil on disk 299 and contains a few changes and bug fixes to the rxil routines. Using these routines, adding ARexx support to a program becomes completely trivial. Version 1.0, includes C source. Author: Andrew Martin, SciTech Software

STSLib

Blink compatible library required to recompile PrLabel. This library supplies gadgets like 3D look gadgets (including checkboxes, radio buttons and dials) and menus whose layout will be adjusted for different default screen text fonts under AmigaDOS V2.0, Version 1.0, link library only. Source and documentation available from the author for a fee. Author: Andrew Martin, SciTech Software

FredFishDisk600

Env A user friendly tool to edit your "environments". You can change, add, copy, rename and delete them with an intuition GUI, instead of using DOS SetEnv/GetEnv. Features include keyboard shortcuts, font-sensitive windows, and shell command line support. Version 2.08, binary only. Author: Stefan Otto

Memcheck

An antivirus package designed to be used for detection and analysis of new and old viruses. It includes a very powerful bootblock detector, a CLI detector and a Vectors program. The programs check for any virus in RAM and are able to kill all viruses in RAM. All libraries, devices, interrupts, reset vectors, etc are completely checked by the programs. This is version 5.0, binary only. Source code is available from the author. Author: Koen Peetermans

Multi_Player

A music player that loads and plays a large variety of the "tracker" type sound modules. With an intuition interface, allows you to load formats like IntTracker, NoisePlayer, Soundracker, FutureComposer and 7 others including power-packed modules! Includes many sample modules in several of these formats. This is version 1.5, an update to version 1.2 on disk 509. Binary only. Author: Thomas Landsburg

NCode

A fast MC68000 10/20/30 conditional macro assembler for the Amiga. Supports both the old and the new Motorola syntax for operands and allows you to put standard parameters in an argument file. NCode can be used for any of the four CPUs and will check whether your code matches the specified target CPU. Version 1.2, binary only. Author: Edgar Visser

Paragon

A two player game where the object is to build a given crown (a pattern of 5 stones) on the playboard. Includes source in AMOS. Author: Volker Steppath

Rothello

Revers: Othello-like game that features the option to shift complete rows or columns of the playfield. Play a human or computer opponent. Version 1.0, shareware, binary only. Author: Michael Koepeke and Rolf Hermann

To Be Continued...

In Conclusion

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And furthermore...

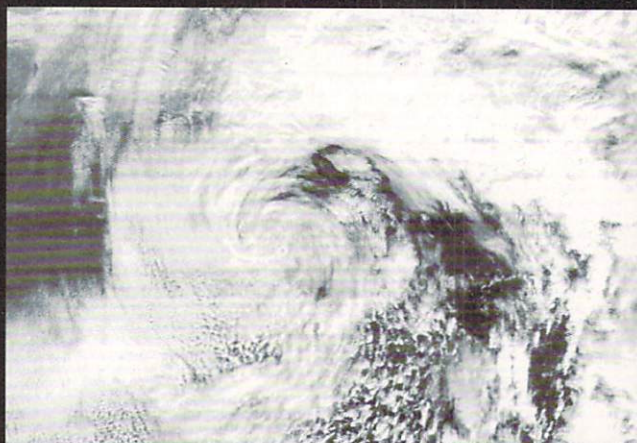
Eighth graders at the D.R. Gaul Middle School in Waldoboro, Maine, are predicting the weather—along with the help of an Amiga computer and some additional satellite receiving software and hardware.

John Hilker, the students' teacher and director of the program, believes the "Amiga weather station" is making a difference. The students enjoy playing the role of a weather forecaster. Each morning, the kids jump off the bus and head to the classroom to watch an incoming satellite image on the Amiga. Line by line, the image is slowly generated on the screen. On February 4th, the students were able to see and predict a snowstorm which gave enough snow to close school on the following day.

Hilker and his students save the images to disk, and combine them into a weekly recap of weather, along with barometric pressure and temperature graphs, which were created with Gold Disk's *Professional Calc*. All of this is included in *The Weather Shop*, the students weather show on videotape. The tape is played throughout the school and even on a local cable access cable TV station.

As you can imagine, this activity has been quite valuable. The geography lessons generated from the views of Earth have improved the students' awareness of the world—a learning experience which has an immediacy impossible to duplicate with books.

—Timothy Duarte



A low pressure system rolls in.



The Arctic Circle

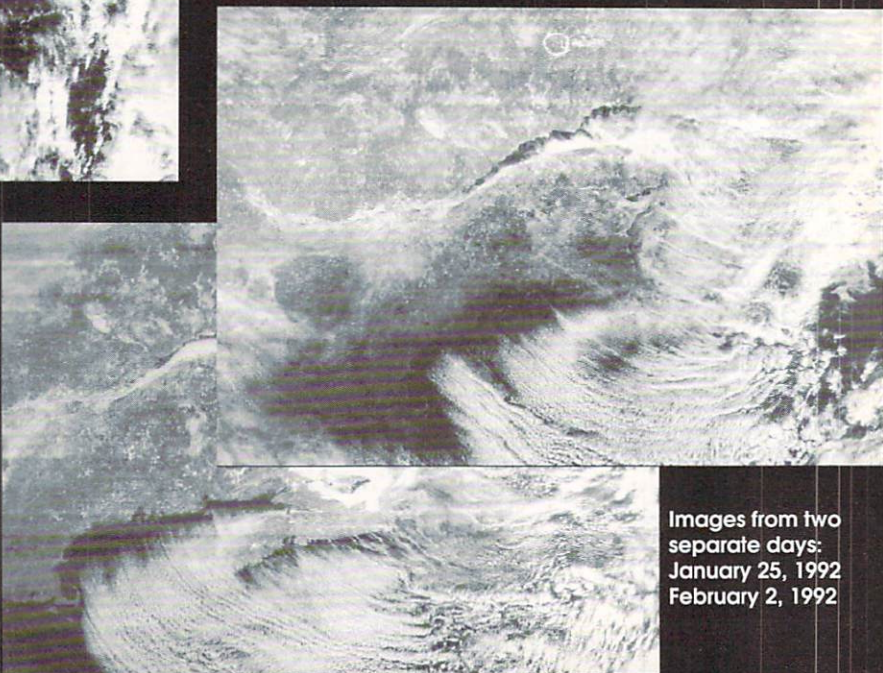


New York, Massachusetts, & The Great Lakes



The St. Lawrence Seaway

All of this happens on the classroom Amiga 2000 with 3Mb of memory. Three additional hardware add-ons complete the system: The Amiga Video Terminal (by Advanced Electronic Applications, Inc.), The Overview A.P.T. (by Overview Systems), and a Vanguard 2000B WePix radio dedicated to satellite signal reception. Excluding the computer, the cost of the receiving system was around \$800. The images are transmitted from Russian polar orbiting satellites.



Images from two separate days: January 25, 1992 February 2, 1992

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☐ 2. Amiga 1000 ☐ 5. Amiga 3000
☐ 3. Amiga 2000 ☐ 6. Do not own an Amiga

F. Where do you buy Amiga products?
☐ 41. local Amiga Dealer ☐ 43. manufacturer
☐ 42. discount department store ☐ 44. mail order

G. How many times have you purchased an Amiga product after seeing it advertised in AC?
☐ 45. frequently ☐ 47. once
☐ 46. occasionally ☐ 48. never

B. If none of the above, which do you plan to buy soon?
☐ 7. Amiga 500 ☐ 9. Amiga 2000
☐ 8. Amiga 2500 ☐ 10. Amiga 3000

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☐ 50. buy at local Amiga dealer
☐ 51. buy at bookstore/newsstand/software store

C. Which Amiga hardware product do you plan to buy next?
☐ 11. memory expansion ☐ 15. modem
☐ 12. hard drive ☐ 16. music tool
☐ 13. IBM emulators ☐ 17. video product
☐ 14. printer ☐ 18. accelerator
☐ 19. other (please specify): _____

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☐ 21. Fort language ☐ 28. database
☐ 22. Modula-2 language ☐ 29. financial
☐ 23. Assembly language ☐ 30. video
☐ 24. BASIC language ☐ 31. graphics
☐ 25. entertainment ☐ 32. music
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☐ 35. \$251-\$500 ☐ 39. \$2001-\$4000
☐ 36. \$501-\$1000 ☐ 40. over \$4000
☐ 37. \$1001-\$1500

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106	107	108	109	110	226	227	228	229	230
111	112	113	114	115	231	232	233	234	235
116	117	118	119	120	236	237	238	239	240
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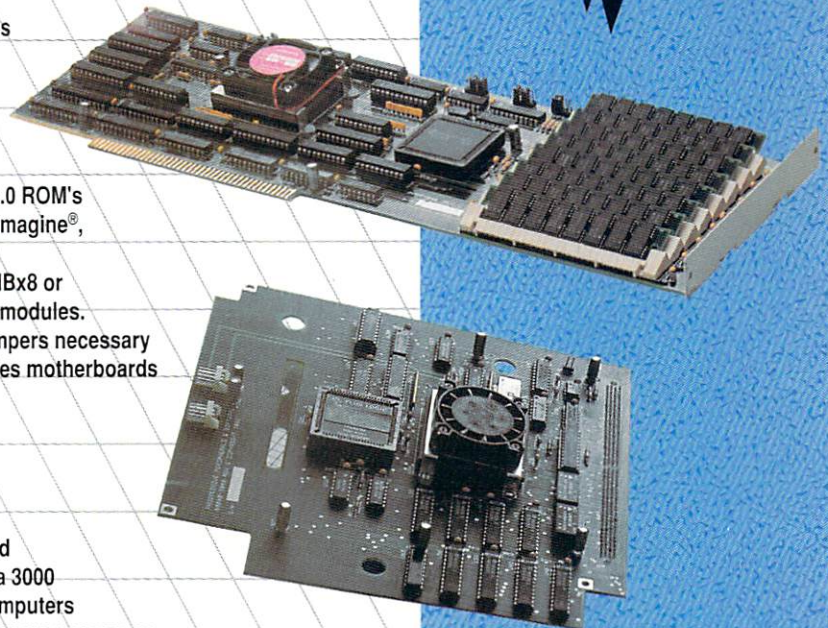
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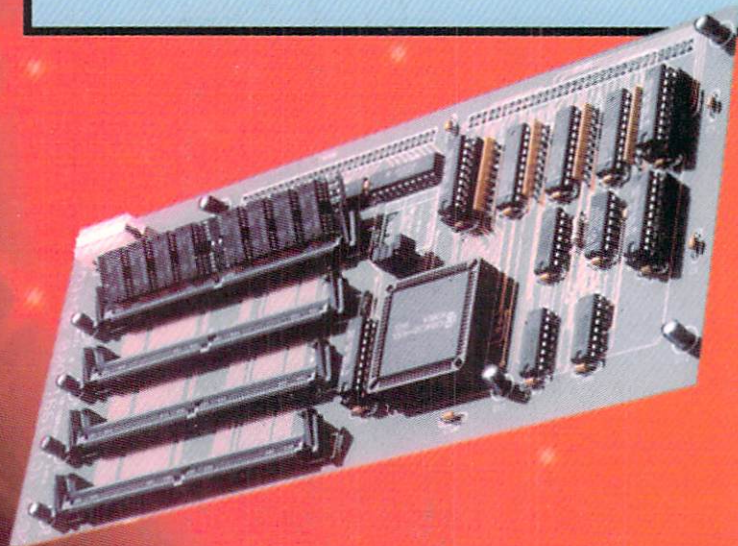
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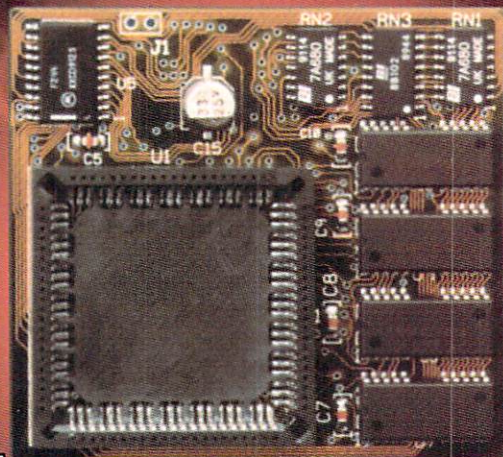
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